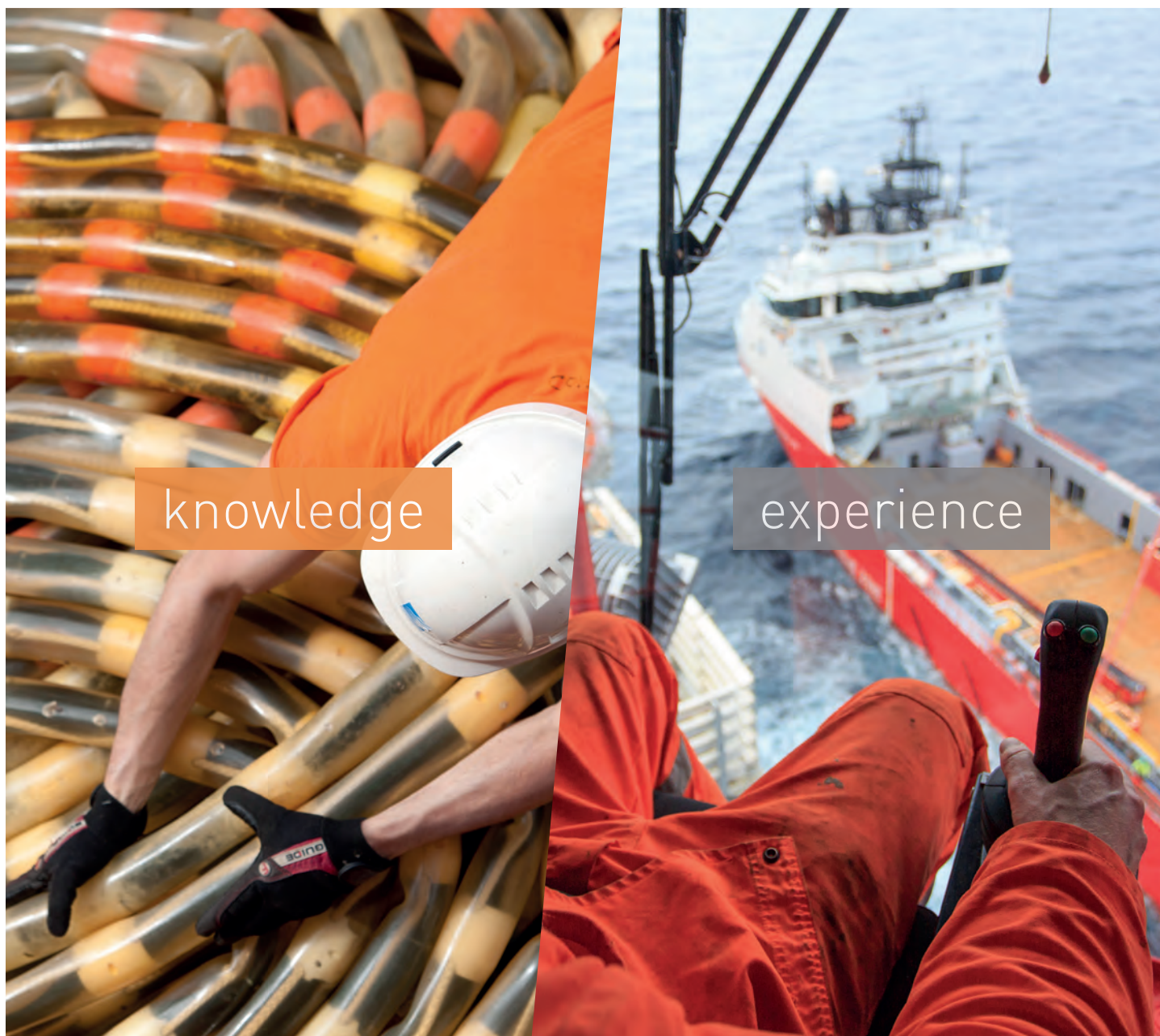


HSE competency management guidelines for the geophysical industry



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HSE competency management guidelines for the geophysical industry

Revision history

VERSION	DATE	AMENDMENTS
3.0	December 2014	Significant update
2.0	June 1999	
1.0	January 1993	First release

Acknowledgements

IOGP would like to acknowledge the personnel from IOGP and IAGC member companies who contributed to the development and review of this document. In addition the work of contributors to previous versions of this document should also be recognized, along with training providers who responded to the initial calls for ideas and examples. The previous versions were issued as OGP Report 6.78/292 in June 1999 and OGP Report 6.27/183 in January 1993.

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Introduction

IOGP and IAGC, along with other geophysical industry bodies, recognize that the frequency and severity of health, safety and environmental (HSE) incidents can be significantly reduced when there is an effective management system in place. Effective implementation ensures that all individuals are aware of the hazards associated with the work place, and the work is conducted with the appropriate level of competence, and risk management controls are in place.

A 'management system (MS)' as referred to in this document is assumed to cover many facets of a company's activities including health, safety, security, the environment, quality, social responsibility and sustainable development. These may be collectively referred to in this document by the acronym HSE for simplicity.

Competence is a combination of knowledge, understanding and skill, and the appropriate level of competence cannot be acquired simply by attending a training session. Knowledge can be gained from training but understanding and skill are acquired by experience. Competency Management includes assessment, verification and tracking of an individual's competence.

It is a geophysical industry requirement that all individuals engaged in the geophysical industry are competent in their assigned jobs. Senior management has a responsibility to ensure an individual's competence is adequate for the job assigned. Senior management (from both contractor companies and E&P companies) has a responsibility to protect employees and third parties from the hazards associated with the work. The Annex 3 modules set out the core requirements for competence (knowledge, understanding, and skill) in each subject. Individuals must be continuously assessed by line management to assure the necessary level of competence is attained and maintained.

Senior management are responsible for making sure that their contractors' and subcontractors' employees have similar levels of competence.

It is expected that senior managers of companies engaged in the geophysical industry will use these guidelines to assist their line managers, in assessing the competence of their employees, and to define their training requirements where competence is unsatisfactory, and to help them choose the appropriate training providers.

Although not covered in this document, language competency is critical for contractor field management and E&P company or consultant field support roles on crews with multi-national content. An easy to use language competence framework is set out in a 2011 Council of Europe document titled *Common European Framework of Reference for Languages: Learning, Teaching*.

These guidelines have been updated significantly from the previous report number 6.78/292 to provide guidance to all companies engaged in the geophysical industry, on the assessment of appropriate competence and the selection of appropriate HSE training. The document also provides guidance to training providers on the contents, and emphasis of training, required by the geophysical industry.

This document also seeks to add value in the following areas:

- Adding clarity to what competence means;
- Providing 'how to' guidance for smaller/new companies;
- Providing a check for larger/more mature companies that their Competency Management System (CMS) has the essential elements;
- Providing competency audit criteria;
- Define broadly the competency cycle and system;
- Covering not just contractor personnel but also E&P company project managers and consultant field representatives.

It is the IOGP's goal to have these guidelines recognized as providing a comprehensive HSE competency management reference, which will be consistent throughout the entire geophysical industry.

It is important to stress that these are guidelines and contain recommendations and should not be considered a list of mandatory industry training, or form part of a contract. (The wording 'should be' is equivalent to 'recommended'). It should be clear that this is a set of guidelines and not prescriptive in either course length, content or target audience.

Each company that uses this document should develop their own competency management system, training matrix and curriculum, consistent with types of operations and hazards that their workforce faces. Not everyone with a particular title used in this document is intended to have all the training listed.

How to use this guideline

This guideline is intended as the geophysical industry base reference for HSE competency management and training. **The Annex 3 sheets provide the details of the guideline.**

Annex 1

Annex 1 is a matrix showing the general subject titles of modules and correlates them to each target audience group. This matrix is useful in showing continuity of competence assessment and training needs.

Annex 2

Annex 2 is a list of HSE *Awareness Modules (AM)* designed primarily for new recruits or people assigned to unfamiliar roles.

New recruits and people assigned to unfamiliar jobs or locations are recognized as a higher risk category. Employers have a duty of responsibility to provide these people with induction and awareness training before assignment. Annex 3 sheets have not been provided for Awareness Modules because the different approaches by companies in the geophysical industry made it difficult to generate module sheets.

Annex 2 lists subject titles and provides a checklist for the user to decide the subject matter that would be taught. The objective is to provide new recruits and assignees to new/different jobs with a basic awareness of the hazards of the job and a basic ability to conduct themselves in a sensible manner to avoid incidents. The user must justify the content of awareness training modules by job specific hazard analysis.

Annex 3

These sheets should be used to:

- Provide guidance for the assessment of competence levels.
- Assess who needs training.
- Enable the correct training module to be selected, and to determine what the contents should be.
- Give guidance to the training provider on the type and content of training required, and the minimum amount of time necessary to impart the knowledge, understanding and skill required.
- Ensure that 'on the job training' does not omit key elements.

The following sections in this front piece give details which need to be read by the user, so that the user understands the reasoning used to generate the Annex 3

sheets. Annex 3 includes its own table of contents to help the user navigate through the document.

Management Modules (MM and MAM)

These modules each have a separate Annex 3 sheet. They are targeted at company executives, senior managers and operations managers, and will focus on the management aspects of the subject matter. The competence assessment criteria and training emphasis will depend on the job responsibilities of the individual. The MM modules are management planning modules, and the MAM ones are management activity modules.

Field Management Modules (FMM)

These modules are targeted at the field operations managers and supervisors. There is an Annex 3 sheet for each module. Supervisors need to be competent in assessing the competence of their work force. Hence they need to have an adequate understanding of the subject matter.

Operator Skills Modules (OSM)

These modules are all skill related. That is the individual has to actively do something. This may be operating a piece of equipment or taking part in an identified activity. The knowledge of any applicable national legislation relating to usage of equipment, or license requirement should be included.

Note: this guideline does not attempt to set out the competence level or training requirements for recognized professions or trades, such as Mariner, Medical Doctor, Electrician, for example. The company must justify the competence of all such employees through its recruitment procedures.

Training Providers

This guideline has not attempted to define the training providers' qualifications. As a guideline for worldwide use, training providers' qualifications are best left to the user to justify that they are acceptable. If required, an entry could be added on relevant module sheets setting out the training provider qualifications necessary to satisfy the user in that part of the world.

Regulatory Requirements

This guideline does not list the different regulatory competence or training requirements country by country. It is recommended that the user consider adding the regulatory requirements of the countries where it operates.

Definitions

Competence

Defined as the ability to perform a particular job in compliance with industry accepted performance standards. (This encompasses the technical requirements and **skill** to perform the job as well as having the relevant **knowledge** and **understanding** to enable the job to be carried out successfully under different and changing conditions, and to handle emergency situations which may possibly occur). Alternatively worded: Competence is the product of Knowledge, Understanding, Skills and Behaviour.

Knowledge

Defined as to know the theoretical or practical details of the subject (for example to know how to start a vehicle and select the correct gears).

Understanding

Defined as the ability to perceive or predict or make reasonable judgment on the outcome of actions. (This is much more than just knowledge – taking the vehicle driver as an example again – understanding would allow the driver to identify why the vehicle would not start, to understand the implication of speed limits; using seat belts: it would allow the driver the best chance of coping with unexpected situations as well as those situations commonly encountered).

Skill

Defined as the practiced and expert ability to carry out a specific action or response. (To be able to drive a vehicle successfully, efficiently and safely over different types of terrain, negotiating obstacles and avoiding hazards).

Training

Defined as the process of imparting specific skills, knowledge and understanding to undertake specific defined tasks. (Training can be undertaken in formal classroom situations, under supervision on the job, computer based training or as part of the normal working experience).

HSE critical task

Defined as a task or decision performed on a health, safety or environmentally critical element which if performed incorrectly can lead to a major incident.

Target audience groups

Table 1 below shows the various target audience groups for which this document is designed. The upper part of the figure covers roles found within the contractor (or subcontractor) organization. The lower part of the figure covers roles held by E&P company employees or consultants in geophysical operations, to which this document is also applicable.

The various target audience groups are shown in **red** to the left of table 1, and are used in Annex 1 (the HSE module matrix).

There is some variation within the geophysical industry on job titles, for example Party Manager vs. Party Chief. The right hand column of Table 1 attempts to show much of this variation. The titles shown in **blue** are the ones that have typically been used for the various modules in Annex 3 in the 'Audience' section.

	<u>Target audience groups</u>	<u>Organizational level in geophysical contractor</u>	<u>Main title used</u>	<u>Similar or equivalent titles</u>
Contractor	Upper management	Executive management	President Executive VP	Chief Executive Officer Senior VP, Chief Operating Officer
		Senior management	VP Operations	VP Acquisition, VP Marine, VP Land
	Management	Operations management	Operations manager Crew supervisor	Marine manager, Land manager, Country manager, Regional manager Vessel manager, Operations supervisor, Superintendent
		Project management	Project manager	Project coordinator, functional managers (e.g. HSE & technical)
	Field management	Field management - top level	Party manager Vessel master	Party chief Captain
		Field management - 2nd level	Department heads	Section heads, section leaders, section chiefs, shift leaders Chief observer, chief navigator, chief surveyor, chief mechanic, chief gunner, chief field geophysicist, etc. (not in any order) Chief engineer, Chief officer
	Field support		HSE advisor	HSE coordinator
			Field support supervisor	Field support supervisors in various functions, assigned to support multiple crews and titled: instrument, catering, engineering, source, survey, navigation, etc. (not in any order)
	Field personnel	Operator	Operator (various)	Mechanic, gunner, electrician, chainsaw operator, driver, etc.
		New assignee	Short service employee	Rookie, greenhorn, trainee, apprentice, beginner, novice, etc.

	<u>Target audience groups</u>	<u>Organizational location</u>	<u>Main title used</u>	<u>Similar or equivalent titles</u>
E & P company or consultant	Management	E&P company or consultant	Project manager	Project coordinator
	Field support	E&P company or consultant	Field HSE advisor	HSE coordinator, HSE rep
		E&P company or consultant	Field technical representative	Bird dog, QC rep, QC geophysicist, processing geophysicist

Table 1: Target audience groups for this document

Contractor and subcontractor company titles

The above table shows generic titles for the hierarchy of management, supervision and employee positions found in geophysical contracting companies related to field operations. This is not intended to cover every position in every company but rather to reflect commonly found titles.

E&P company roles (including consultants)

In this geophysical industry document revision, the target audience groups have been expanded to cover E&P company employee roles and also of consultant field representatives, and not just contractor employees. These have been labeled with similar names of 'Management' and 'Field support' to those of the contractor company organizational structure in the upper part of the table. This allows this competency management document to be used to cover the full range of roles found in geophysical operations.

Competency management systems

Introduction

Competence is a combination of practical and theoretical knowledge, cognitive skills, behaviour and values. It is the product of knowledge and understanding, skills and behaviour. The goal of assuring competency is to be able to demonstrate that employees are competent to carry out the tasks that they are required to perform.

A Competency Management System (CMS) is used to assess, evaluate and identify areas where improvements in qualifications, training and supervision need to be made to align role expectations and performance. The goal of the Competency Management System (CMS) is to control in a logical and integrated manner, a cycle of activities that will assure competent performance. Competency Management Systems may vary from company to company and the outline that follows in Figure 1 is just one way in which a CMS could be structured.

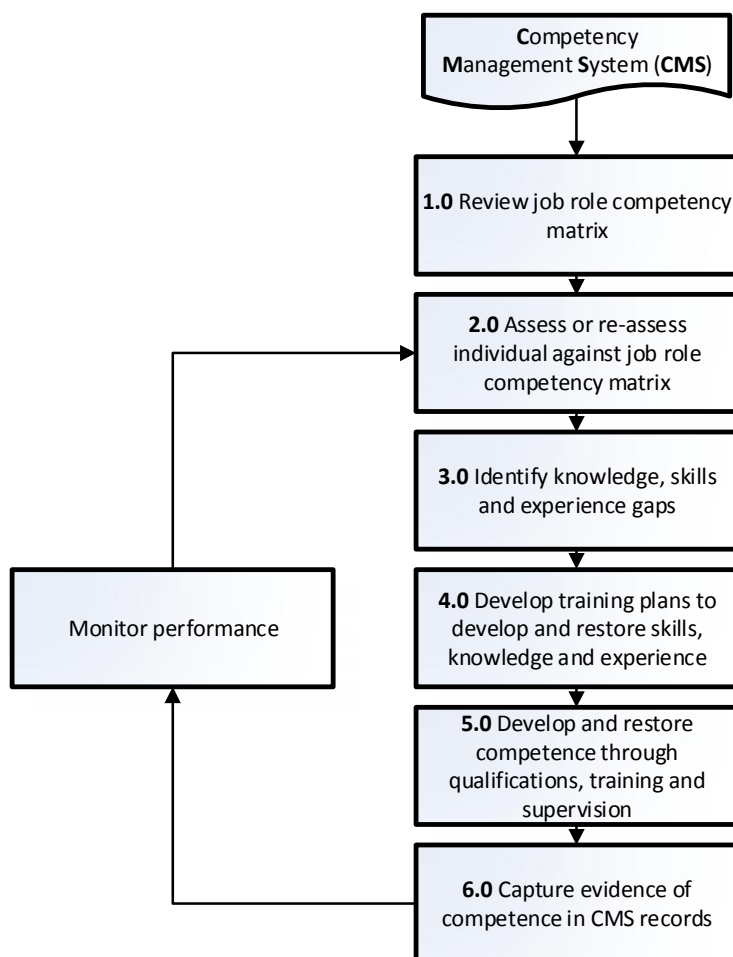


Figure 1: Methodology for a Competency Management System (Cogent)

Building a Competency Management System

This CMS is based on the generic management system model of Plan, Do, Check, Act (Cogent, 2011) and may comprise steps 1 through 5 below:

1. Scope the Competency Management System (CMS)

- Define the purpose of the CMS;
 - Any Competence Management System should assure the organization, individual employees and external bodies, that the workforce is demonstrating ongoing competence in any role, across all disciplines;
- Define the scope of the CMS;
 - Establish a steering group to set the policy and have a direct responsibility within the CMS for key elements of the system. The steering group should involve representatives from all appropriate levels within the organization;
 - Consider the whole organization and prioritize HSE critical and Competent Authority regulatory requirements in the workplace;
- Define HSE critical tasks for whole area;
 - HSE critical tasks are those where sub-standard performance could contribute to a major accident hazard;
 - Create a HSE critical task list for all areas of the operation;
 - Consider normal, abnormal and emergency operations;
- Define roles and responsibilities that are covered by CMS;
 - Identify roles that include the HSE critical tasks that have been identified for the whole area;
 - Include non-operational roles e.g. procurement and senior management;
 - Identify which people have HSE critical tasks attached to them;
 - A critical task/role matrix can be used to define the roles at a management and senior management level that should fall within the scope of the CMS.

2. Design the Competency Management System

- Define the elements that CMS covers;
 - Procedures, methods and work instructions for operating the CMS;
 - Competence standards and assessment criteria;
 - Training, development and assessment requirements;
 - Competencies and responsibilities of those managing and operating the system.
- Define the system interfaces (external and internal);
 - Ensure all relevant corporate and local standards and policies are supportive of the CMS;

- External interfaces may include external audit and benchmarks such as Standards Organizations;
 - Internal interfaces may include internal audit and other relevant Quality Assurance Procedures;
 - The CMS may be aligned to capability and fitness for duty and other HR company policies.
- Define the competence standards;
 - Analyze the HSE critical tasks to determine the practical, technical and behavioural skills, the organizational and legislative knowledge and the level of expertise required to perform the task competently;
 - For each HSE critical role refer to national occupational standards as the basis for the competence standards and tailor with additional site and process/job specific standards to ensure they meet the risk profile of the site in particular with respect to the HSE critical tasks and the control of major accident hazards;
 - Company policy may dictate high level standards whilst the local management system defines local procedures and site standards;
 - Create a framework of competences standards for all HSE critical roles that can be used for:
 - Workforce selection including contractors and other third parties;
 - Training of new recruits;
 - Development of the workforce;
 - Assessment and re-assessment of the workforce;
 - Determine accountability for different aspects of the CMS design, e.g. HR department and local line management to generate job descriptions.
 - Define how each competence standard is met, assessed and recorded;
 - For each job role the assessment plan for each competency should specify:
 - Nature of assessment;
 - Type of assessment;
 - What will be assessed;
 - When the assessment will take place;
 - The expected duration;
 - All parties who will be involved in the assessment process;
 - The frequency of re-assessments.
 - Use Assessment methods appropriate to the activity. These methods might involve a combination of the following:
 - Direct observation;
 - Indirect information gathering;
 - Incident simulation;
 - Written and verbal questions;
 - Open questions;
 - Multiple choice questions;

- Build assessment into the daily role of the individual as much as possible. This allows natural production of evidence that assists in demonstrating competence;
 - Method of assessment, testing method and pass criteria should be proportional to hazard/nature of the activity;
 - Assessment and re-assessment should confirm that knowledge secured through training and learning is related to the actual environment in which the individual works;
 - Maintain a record verifying an individual's competence against the set standards;
 - Maintain recording systems of training, refresher training, assessments and reassessments that can be audited internally and externally.
- Define the training and development program for each proposed competence standard;
 - Job competencies can be met through qualifications or training programs that have been mapped to national standards;
 - Local competence standards can be met through internal training;
 - Achievement of these qualifications or training can contribute to the demonstration of the required competence.
 - Consider the continuous development needs of personnel to ensure that they are informed and keep up to date with changes in applicable regulations, procedures and systems.
 - Define the quality assurance procedures for all system elements;
 - Assessment should be carried out by an individual who has an understanding of assessment techniques and has been proved technically competent in the area being assessed;
 - The Assessor records successful assessments in an individual's assessment record/progress chart. Feedback from the assessments should clearly state what activities were not carried out to the required standard and should be logged in the individual's assessment record, so that an appropriate training and reassessment plan can be agreed;
 - Use an Internal Verifier to audit the assessment decisions of the Assessor. This will ensure compliance and consistency across a site.

3. Implement the Competency Management System

- Conduct measurement and verification of competence against the defined competence standards;
 - Carry out assessments of all staff who undertake HSE critical tasks against the competence standards for a job role before the individual is deemed competent to carry out the role unsupervised;
 - For existing staff already carrying out the role the assessment should aim to prove continued competence;
 - Identify gaps where an individual does not possess the skills and knowledge indicated on the job description/competency matrix in order to define the individual's development needs;
 - Verification of competence against the competence standards for a job role should be specific to the working context and circumstance;
 - Ensure assessors are experienced, knowledgeable and with sufficient practical understanding to be credible to the workforce.
- Train to the defined competence standards;
 - Use a variety of appropriate methods to update the competence of individuals;
 - A hierarchy of assessment might use a combination of:
 - Formal or informal one on one meetings with a question and answer session between line manager and employee;
 - Formal performance reviews;
 - Formal task observations;
 - Informal task observations as part of day-to-day supervision;
 - Informal task observations as part of a development program;
 - Completion of records;
 - Review of workbooks/training books/portfolios;
 - Simulator exercises to observe specific tasks;
 - Written tests;
 - Verbal test;
 - Review of events post an accident/incident investigation.
- Monitor, reassess and maintain competence;
 - Use a formalized and structured program which concentrates on the assessment and re-assessment of competence when carrying out HSE critical tasks;
 - Include scheduled full and partial observations and assessments and non-scheduled spot observations and assessments;
 - Infrequent events or emergencies should also be used as an opportunity to monitor an inexperienced individual's performance;
 - Define a reassessment frequency policy that reflects criticality of the task and exposure to events and gives consideration to regulation and response to incidents and changes;
 - Control processes should be maintained to ensure that members of staff are only asked to undertake major accident hazard critical work for which they are competent.

4. Assess and maintain Competency Management System

- Update competence standards in response to change;
 - Consider the Management of Change procedure and its interface to the CMS;
 - Update re-assessment and additional training and development requirements that may be initiated due to an organizational or management of change, engineering controls for safety and health, loss or accident and incident investigation;
 - Review job descriptions regularly to ensure continuing suitability for the job;
 - Use evidence from task observations for HSE critical tasks to improve the competency matrix;
 - Use internal incident reports and incident reports from external sources to identify areas for improvement and update/improve the competency matrix;
 - Use audit results to identify areas for improvement;
 - Liaise with regulatory authorities and refresh competence standards to ensure continued compliance with regulations and Competent Authority guidance;
 - Review competency standards to ensure they are adequate in relation to nationally recognized standards such as Cogent or ECITB (Engineering Construction Industry Training Board) or other appropriate National Occupational Standards.
- Maintain the competence of CMS managers and assessors;
 - Consider the process for the selection and the ongoing assurance of the competence of internal and external trainers and assessors;
 - Maintain the knowledge base and skills set of trainers and assessors in line with any changes to the organization's assets, processes and procedures.
- Review the output and impact of the CMS on Key Performance Indicators (KPIs);
 - The CMS steering group should define the policy with respect to the competence management system and then demonstrate how well it is being implemented;
 - Conduct self-verification of system and internal audit. This may include active monitoring to ensure compliance with training instructions and safe working practices;
 - Use reactive monitoring to identify and report on incidents to check controls are in place, identify weakness and learn from mistakes;
 - Use leading and lagging KPI's to provide an indication of the CMS effectiveness.

5. Verify and audit the Competency Management System

- Review and feedback;
 - Conduct audits identifying gaps in the CMS. The audit of CMS should be part of the quality management system or an equivalent internal process;
 - Verification should cover the systematic monitoring of the assessment process in terms of how well the assessments are carried out, and how the assessment process is applied;
 - Verification should be directed towards determining compliance with the agreed standards, rules and procedures;
 - Audit should check the records and the competence of the individual's managing the CMS.
- Refresh and improve the CMS.
 - Based on audit feedback make the necessary changes to ensure a fit for purpose and accurate system;
 - The Competence Management System should be regarded as a continuously improving process.

Scoping the CMS

The following checklist can be used to scope the CMS as shown below:

1. Start with job/role/tasks not individuals;
2. Do not re-write procedures;
3. Use workshops to brainstorm the needs and scope of the CMS with your company subject matter experts;
4. Identify HSE critical tasks;
5. Define the HSE critical roles;
6. Define the competence standards;
7. Compile job descriptions;
8. Consider the impact on recruitment, selection, HR, appraisal;
9. Map the CMS process to existing management procedures and identify gaps;
10. Document the systems and processes that contribute to competency management.

The CMS and this document

Figure 2 below shows the CMS model expanded to incorporate this IOGP document and modules, and also and shows various competency assessment methods and planning aspects.

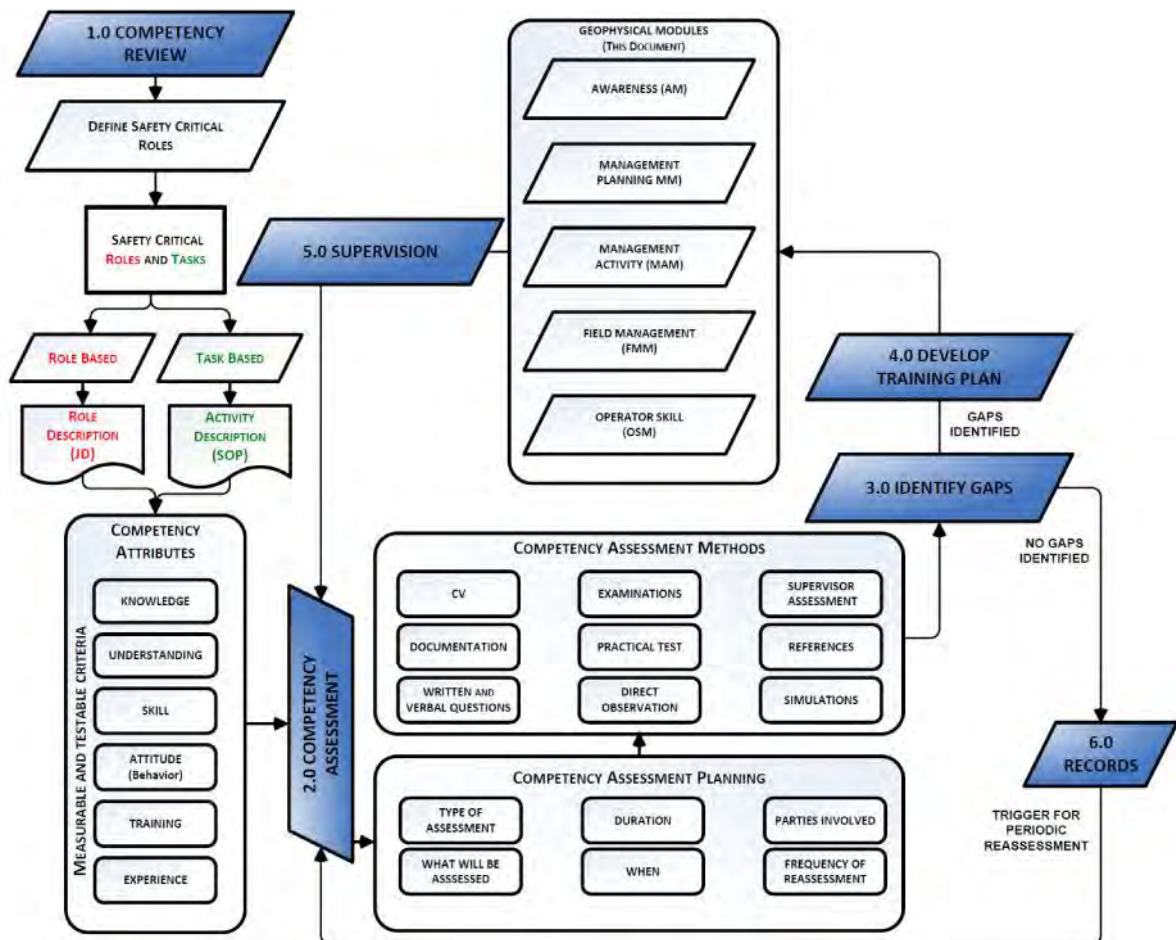


Figure 2: CMS model expanded to incorporate this IOGP document and Competency assessment planning and assessment methods.

Example of definitions of levels of competence

This particular example comes from the Cogent (2011) reference, but is by no means the only option, It is just provided here as an example. Each organization should develop its own levels of competence that best suit the company and its activities.

Supervised Practitioner

A Supervised Practitioner has sufficient knowledge and understanding of best practice, within the organization or within the relevant industry sector, to be able to work on the tasks associated with the overall function without placing an excessive burden on the Practitioner or Expert which might compromise HSE performance. It will be the responsibility of a Practitioner or an Expert to check the work of the Supervised Practitioner.

Practitioner

A Practitioner has sufficient knowledge and understanding of best practice, and sufficient demonstrated experience, to be able to work on tasks associated with the overall function without the need for detailed supervision.

A Practitioner will maintain their knowledge and be aware of the current developments in the context in which they work. The Practitioner may be required to perform detailed checks on the work carried out by a Supervised Practitioner.

Expert

An Expert will have sufficient understanding of the basis for current working practices and sufficient demonstrated managerial skills, to be able to undertake overall responsibility for the performance of a function. An Expert will be familiar with the ways in which systems have failed in the past.

An Expert will keep abreast of technologies, architectures, application solutions, standards, and regulatory requirements, particularly in rapidly evolving fields such as process safety related systems. An Expert will have sufficient breadth of experience, knowledge and depth of understanding to be able to work in novel situations.

An Expert is able to deal with multiple problems under pressure without jeopardizing HSE performance.

HSE competence assessment

No frequency of re-assessment is typically prescribed in this guideline as different regulatory agencies set different periods. Competence re-assessment should be performed as specified by local regulations or statutes. As well as compliance with local regulations, however, the main criteria is for continual assessment of competence.

Competence can be eroded by the passing of time, through lack of practice, memory failure, the introduction of new equipment and techniques. A line management process should be in place so that loss of competence can be quickly identified and rectified.

Competence may have been acquired by individuals as part of their general experiences of work in the geophysical industry or elsewhere.

This guideline has set out in the Annex 3 sheets the criteria for assessing levels of competence for the subject of the module.

In many situations there will be a need for individuals to have adequate levels of competence in associate subjects, for instance, managers and supervisors need to be competent in communication skills, delegation of work, and other personnel management issues. The Annex 3 sheets only identify the competencies associated directly with the module subject matter. Assessment of competence must provide valid and reliable evidence that the person has acceptable knowledge, understanding and skill to carry out the identified task successfully, efficiently and safely. Each module sheet has identified the Knowledge, Understanding and Skills that a competent person should possess.

Training philosophy

Training should not be planned for its own sake, but should be effective and have clearly identified aims and objectives.

This guideline sets out six categories of training, targeted at all new recruits or new assignees; field personnel who need specific operator skills, field support personnel, field management, crew supervision/operations managers (management) and upper management.

Different competencies may be required depending on the job and responsibilities of the individual. A senior manager requires less hands-on emphasis and more management understanding.

The training objectives identified in this guideline are aimed at:

- Providing awareness of the hazards associated with the work.
- Providing management skills, knowledge and understanding to recognize the degree of risk and put in place the controls to reduce the risks to as low as reasonably practicable.
- Enhancing the skills, knowledge and understanding of individuals to enable them to do their job with minimum risk.
- Providing skills, knowledge and understanding to be used in control of hazards and recovery should an incident occur.

Each Annex 3 module sheet indicates an example minimum duration for training. This is included as a guide only to the relative volume of information contained in each module and should not be perceived as a minimum requirement. The duration of the training may vary by course content and the training method used. The methods utilized may be computer-based training (CBT), instructor lead or on the job experience.

Some regions that have regulatory boards and some client companies may impose additional training requirements (e.g. SafeGulf in the United States), but these are outside the scope of this document.

The frequency of refresher training for the modules in Annex 3 is not defined within this document. It will be left to the judgment of the individual companies to define the appropriate refresher period to maintain competency and to meet regulatory, client company or other requirements.

Course selection and accreditation

HSE training modules developed and used by the geophysical industry are not necessarily accredited by any official body or organization. IOGP and IAGC do not accredit courses or training providers. Many of the courses developed in the geophysical industry are taught in-house by individual companies because they are specific to the risks associated with geophysical operations. In some countries however, national regulations may require training to be carried out by an accredited body.

Some of the competencies required to support geophysical operations are common to other industries and where applicable these other courses may be used to meet geophysical industry competency requirements.

Any HSE competence assessment and or training should be gauged against these guidelines, whether in-house or external. This should be done by a system of audits in accordance with good management practice (e.g. ISO 9000 series).

Employers should assure themselves that the training courses they use are suitable for their aims and objectives and it is recommended that as a minimum, courses should comply with these guidelines. The following should be done by the employer:

- Specifying the required course contents and objectives accurately.
- Checking the site's accreditation (if applicable).
- Checking the trainer's qualifications and suitability to conduct the module.
- Building a performance history of the training venues and providers used.

In addition to the details provided in each module there are some precepts that are common to all modules. These include:

- Risk assessment is a critical aspect in all modules in determining applicability;
- Client specifications or country regulations may require additional module content in some circumstances;
- Module content should be applicable to the equipment and/or process being used, and applicable to the environment of the operations;
- Competence should be judged according to actual practice of skills;
- Training should be renewed according to requirements, whether regulatory, industry guidance.

Training record

Where a person completes a module, by demonstrating the competence level required, a record should be kept. This record should provide the following information:

- identity of training organization
- trainer's name
- title of the course
- dates course took place
- location of course
- accreditation details (if applicable)
- employer's company name
- attendee's name
- period of validity
- was some assessment of competence included to issue a certificate
- an authentication of training completion (e.g. an authorized signature from a competent training provider)

A record of personal competence must be made and stored in a robust and readily accessible format that can be authenticated. The course may be identified by the code used in this guideline.

Safety passports are considered to not have the same value today compared to the time when this document was previously updated. They may still have value for individuals to maintain a historical record of their training. An electronic database is recommended to allow companies to be able to verify training, demonstrate gaps and close them. It is important that electronic records are easily accessible.

Training providers should maintain a register of all courses run. This should include dates, instructor's names, syllabus, attendees' names and their employer's identity.

References

The user may wish to customize this list of references with country specific details.

- Cogent UK PIA, *Guidelines for Competency Management Systems for Downstream and Petroleum Sites*. June 2011.
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Acronyms

The following acronyms are used in this document:

ABC	Airway - Breathing - Circulation
AED	Automated External Defibrillator
ALARP	As Low As Reasonably Practicable
AM	Awareness Module
CAA	Civil Aviation Authority
CBT	Computer Based Training
CMS	Competency Management System
CPR	Cardio-Pulmonary Resuscitation
CSR	Corporate Social Responsibility
E&P	Exploration and Production
ECITB	Engineering Construction Industry Training Board
ERP	Emergency Response Plan
ESIA	Environmental and Social Impact Assessment
FMM	Field Management Module
FRC	Fast Rescue Craft
HACCP	Hazard Analysis Critical Control Point
HAZID	HAZard IDentification
HAZMAT	HAZardous MATerials
HLO	Helicopter Landing Officer
HR	Human Resources
HSE	Health, Safety and Environment
HUET	Helicopter Underwater Escape Training
IAGC	International Association of Geophysical Contractors
IMO	International Maritime Organization
IOGP	International Association of Oil and Gas Producers
IPIECA	IPIECA (formerly International Petroleum Industry Environment and Conservation Association)
IRCA	International Register of Certificated Auditors
ISBN	International Standard Book Number
ISM	International Safety Management (code)
ISO	International Standards Organization
ISPS	International Ship and Port Facility Security (code)
JSA	Job Safety Analysis
KPI	Key Performance Indicator
LOTO	Lock Out/Tag Out
LTIF	Lost Time Injury Frequency
MAM	Management Activity Module
MERP	Medical Emergency Response Plan
MM	Management (Planning) Module
MOC	Management Of Change
MS	Management System
OPITO	Offshore Petroleum Industry Training Organization
OSM	Operator Skill Module

PPE	Personal Protective Equipment
PTW	Permit To Work
ROV	Remotely Operated Vehicle
RYA	Royal Yacht Association
SCM	Subcontractor Management
SDS	Safety Data Sheets
SIMOPS	SIMultaneous OPerationS
SMPEP	Shipboard Marine Pollution Emergency Plan
SSB	Single SideBand
SSO	Ships Security Officer
STCW	Standards of Training, Certification and Watchkeeping (for Seafarers)
TRCF	Total Recordable Case Frequency
UHF	Ultra High Frequency
VHF	Very High Frequency

Annex 1 – HSE module matrix

		New Assignee	Operator	Field Support	Field Management	Management	Upper Management
	The Seismic Industry						
AM1	Introduction to the seismic industry	X					
	Company HSE Management Systems						
AM2	Company HSE management system	X					
AM34	Company harassment policy	X					
MM1B	HSE management systems for managers and supervisors			X	X	X	
MM1A	Management systems for senior management						X
MM2	Operational site management			X	X	X	
FMM1	Meetings and committee organization				X		
FMM2	Incident reporting and classification			X	X		
FMM5	Incident investigation			X	X		
MAM1	Serious incident investigation					X	X
MAM2	Auditing techniques			X	X	X	X
MAM3	Unsafe act auditing & condition observation, reporting & monitoring				X	X	X
MAM10	Safety leadership			X	X	X	X
	Emergency Response & Crisis Management						
AM13	Emergency procedures	X					
MM3	Emergency response planning and communications			X	X	X	
MM7	Crisis management - 3rd line Strategic response						X
MAM7	Crisis management - 2nd line Operational response					X	
FMM27	Crisis management - 1st line Tactical response				X		
FMM18	Spill response				X		
	Environmental and External Affairs						
AM26	Environmental conservation	X					
AM35	Marine Life and Sound	X					
FMM3	Environmental management				X		
FMM4	Hazardous and other waste management				X		
AM18	Hazardous substances	X					
AM17	Hydrogen sulphide (H ₂ S)	X					
FMM15	Hazardous materials handling				X		
AM27	Local legislation	X					
AM28	Public relations	X					
FMM26	Handling the media and public relations				X		
MAM6	Media handling / public relations					X	X
AM31	Community relations	X					
AM32	Impact of social media	X					
FMM25	Social media usage awareness				X		
FMM22	Social responsibility				X		
MM6	Corporate social responsibility					X	X
	Equipment						
AM19	Equipment safety	X					
OSM14	Machinery		X				
OSM15	Abrasive wheels		X				
OSM16	Cutting and welding (gas & electric)		X				
AM24	High pressure systems	X					
OSM17	High pressure		X				
FMM16	Pressure systems in the workplace				X		
FMM11	Workshop practices				X		
AM25	Electrical safety	X					
FMM21	Electrical safety				X		

		New Assignee	Operator	Field Support	Field Management	Management	Upper Management
	Fire Prevention, Detection, Fighting						
AM15	Fire prevention and control	X					
OSM26	Basic fire-fighting techniques		X				
OSM27	Fire warden		X				
OSM28	Fire-fighter team support - land & marine operations		X				
FMM7	Fire prevention and control				X		
	Journey Management/Travel						
AM11	Transport and travel	X					
MM4A	Journey management (Land)			X	X	X	
MM4B	Journey management (Water)			X	X	X	
MM4C	Journey management (Air)			X	X	X	
	Material Handling						
AM20	Stepping, handling, lifting	X					
AM36	Dropped Objects	X					
OSM18A	Rigging (wire/synthetic rope utilization)		X				
OSM18B	Mechanical assistance (dollies etc.)		X				
OSM18C	Crane operations		X				
OSM30	Manual handling and lifting		X				
	Occupational Health						
AM4	First aid	X					
OSM23	Basic first aider - level 1		X				
OSM24	Advanced first aider - level 2		X				
OSM25	Health-care professional - level 3		X				
AM6	Infectious diseases	X					
AM3	Personal health and hygiene	X					
AM5	Substance abuse	X					
MAM5	Substance abuse program implementation				X	X	X
AM7	Hearing conservation and noise	X					
OSM33	On site food handling and hygiene		X				
AM22	Ergonomic considerations (equipment work place design)	X					
FMM19	Ergonomics				X		
MAM9	Ergonomics implementation					X	X
	Permit to Work, Lockout Tagout Systems						
AM16	Permit to work, lockout tagout systems and isolation	X					
OSM13	Permit to work and lockout/tagout		X				
FMM9	Lockout/tagout and permit to work				X		
MAM4	Lockout/tagout and permit to work systems			X		X	X
AM23	Confined spaces	X					
OSM31	Confined space operations		X				
	Personal Protective Equipment						
AM9	Personal protective equipment	X					
OSM29	Breathing apparatus - general use		X				
FMM8	Personal protective equipment - its proper use				X		
OSM22	Safety harnesses		X				
AM30	Working at heights & fall prevention	X					
OSM32	Working at heights (land and marine)		X				
FMM10	Working at heights & fall prevention				X		

		New Assignee	Operator	Field Support	Field Management	Management	Upper Management
Risk Management							
AM14	Hazard ID and risk assessment	X					
AM21	Responsible conduct (including Stop Work authority)	X					
FMM6	Job safety analysis				X		
FMM24	Field risk management			X	X		
MAM8	Risk management					X	X
Seismic Operations							
OSM20A	Drilling (mechanical) (truck mounted and heli-portable)		X				
OSM20B	Drilling (semi-manual) (water flushing, air blow or auger)		X				
OSM19	Chainsaws & tree felling		X				
FMM13	Chainsaw operations & tree felling				X		
FMM12	Seismic line bridging operations				X		
OSM21	Explosives handling and shot hole loading		X				
FMM14	Seismic explosives operations						
OSM34	Remotely operated vehicles (ROV)		X				
FMM17	Operating in & around hazardous facilities and activities (SIMOPS)				X		
FMM20	Managing sub-contractor interfaces				X		
MM5	Sub-contractor management					X	X
FMM23	Marine administration				X		
AM33	Lone workers	X					
Survival							
AM12	Survival (land and marine)	X					
OSM35A	Survival techniques - marine		X				
OSM35B	Survival techniques - land		X				
OSM35C	Survival techniques - jungle		X				
OSM35D	Survival techniques - polar		X				
OSM35E	Survival techniques - swamp		X				
OSM12	Helicopter underwater escape (HUET)		X				
Transportation - Air							
OSM10A	Helicopter landing officer (HLO) - Land		X				
OSM10B	Helicopter landing officer (HLO) - Marine		X				
OSM11	Helicopter loadmaster (Cargo master)		X				
OSM36	Hook-up man (ground crew)		X				
OSM38	Aircraft base radio operator		X				
OSM39	Aircraft refueling personnel		X				
Transportation - Land							
AM10	Defensive driving	X					
OSM1	Defensive driving		X				
OSM2	Off-road driving		X				
OSM3	Specialized vehicle driver		X				
OSM4	Forklift truck driver		X				
OSM5	Highway traffic control		X				
OSM6	Vehicle recovery		X				
Transportation - Water							
AM29	Small boats (passenger)	X					
OSM7	Small boats - rivers and near shore		X				
OSM8	Small boats - marine operations		X				
OSM9	Airboats		X				
OSM38	Working on in-sea equipment		X				
Security							
AM8	Personal security	X					
FMM28	Security				X		
MM8	Security planning					X	X

Annex 2 – HSE Awareness modules list

- AM1 Introduction to the seismic industry
- AM2 Company HSE management system
- AM3 Personal health and hygiene
- AM4 First aid
- AM5 Substance abuse
- AM6 Infectious diseases (previously blood-borne pathogens (HIV, hepatitis etc.))
- AM7 Hearing conservation and noise
- AM8 Personal security
- AM9 Personal protective equipment
- AM10 Defensive driving
- AM11 Transport and travel
- AM12 Survival (land & marine)
- AM13 Emergency procedures
- AM14 Hazard ID and risk assessment (previously incident prevention)
- AM15 Fire prevention and control
- AM16 Permit to work, lockout/tagout systems and isolation
- AM17 Hydrogen sulphide (H₂S)
- AM18 Hazardous substances
- AM19 Equipment safety
- AM20 Stepping, handling, lifting
- AM21 Responsible conduct (including Stop Work authority)
- AM22 Ergonomic considerations (equipment work place design)
- AM23 Confined spaces
- AM24 High pressure systems
- AM25 Electrical safety
- AM26 Environmental conservation
- AM27 Local legislation

AM28 Public relations
AM29 Small boats (passenger)
AM30 Working at heights & fall prevention
AM31 Community relations
AM32 Impact of social media
AM33 Lone workers
AM34 Company harassment policy
AM35 Marine life and sound
AM36 Dropped objects

NB. Awareness Modules are listed as a guide to management of the topics that may be included in the company's induction course for new recruits or where an employee is moved from one job to another or is transferred to a different location. The list is not intended to suggest that each module must be included or that this listing is exhaustive. Each company should decide what to include and what emphasis should be placed on each module. This will depend on what job the individual is assigned, where sent, and what equipment and environment is likely to be encountered. The duration for an Awareness Module will vary and is left to each individual company. There should be a follow up on-site induction on arrival at the work location.

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OSM35E	Survival techniques – swamp	216
OSM36	Hook-up man (ground crew) (new)	218
OSM37	Working on in-sea equipment (new)	220
OSM38	Aircraft base radio operator (new)	222
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Management planning modules

MM1A Management systems for senior management

Date this sheet issued: 22 December 2014

Audience

Upper management (e.g. President, Executive VP, VP Operations, etc.) from contractor and subcontractor companies.

Objectives

- To ensure that the target audience understands their company HSE management system (MS), and their role in setting policy and objectives, using the MS, promoting it, reviewing its effectiveness, and continually improving the management system.

Knowledge

- Of the company management system and its relationship to company policy, legal requirements and industry best practice.
- Of the line management structure and individual responsibilities within this structure.
- Of the industry's guidelines and performance reports.

Understanding

- Of why the management system must be understood by all employees and third parties.
- Of the benefits of good HSE management – protection of our workforce and the environment, lower costs and higher morale.
- Of the benefits of accident reporting, investigation and feedback.
- Of the importance of good leadership especially by setting a good example, efficient communication and visible commitment.
- Of the importance of incorporating HSE management system expectations into business decisions.
- Of duty of care.

Skill

- At promoting the company management system throughout the work force, and motivating the work force to become actively involved in participation and achieving performance targets.
- In annual review of the MS, asking the right questions to foster its continuous improvement, and setting realistic objectives.
- In identifying failures and overcoming them efficiently and promptly, and preventing re-occurrence.
- In selecting the right people to whom to delegate responsibility.
- At keeping safety high on the agenda during meetings.
- At reviewing the effectiveness of risk management controls and mitigations during any site visits.
- At providing appropriate resources for HSE management activities.

Example minimum duration

8 hours.

References

- Module MM1B (HSE management systems for managers and supervisors).
- IOGP Report No. 510, *Operating Management System Framework for controlling risk and delivering high performance in the oil and gas industry*, June 2014
- IOGP Report No. 511, *OMS in practice. A supplement to Report No. 510 Operating Management System Framework*, June 2014
- IOGP Report No. 423, *HSE management – guidelines for working together in a contract environment*, June 2010.
- IOGP Report No. 432, *Managing HSE in a geophysical contract*, December 2009.
- IOGP Report No. 432-01, *Guidance note on subcontractor management in geophysical operations*, October 2012.

MM1B HSE management systems for managers and supervisors

Date this sheet issued: 22 December 2014

Audience

All line management responsible for people, sites or vessels (e.g. operations managers, crew supervisors, project managers), field management (e.g. party managers, vessel masters, technical managers, department heads) and field support personnel.

Objectives

- To ensure the target audience understands their company management system (MS), its key elements/components/structure/concept and their individual role in utilizing the system and putting it into operation in their own areas of control and responsibility.

Knowledge

- Of the company HSE management system and how it applies to their areas of control.
- Of how the system functions.
- Of how to navigate through the company MS to find for example (but not limited to): policies, manuals, processes, procedures, work instructions, forms, risk assessments, meetings corrective actions, statistics, plans and targets, performance measurements, audit findings etc.

Understanding

- Of their responsibilities and their authority to manage the site/vessel management system in their areas of control.
- Of the benefits of a robust HSE MS and how it performs in providing improved performance in all aspects of HSE.
- That good HSE management has substantial benefits e.g. in work safety and work force morale, commonly referred to as an HSE culture.
- Of the concept of strategy of how the MS works (continual improvement process of Plan - Do - Check - Act), and any standards that apply or it conforms to as set by the company.
- Of how to carry out tasks or activities within the MS commensurate with their position /level or authority.
- Of the importance of good leadership especially by setting a good example, efficient

communication and visible commitment.

Skill

- At utilizing the MS processes and tools to ensure the strategy and performance of the MS is effective e.g. (but not limited to) chairing committees, conducting risk assessments, auditing, implementing plans, and achieving objectives and targets to ensure safe work practices, safe places or work and safe systems of work.
- At understanding and awareness of potential and detected weakness in the MS and able to implement effective corrective action plans.
- At organizing tasks and activities to ensure the MS functions and operates as per design, to meet objectives set by senior management.

Example minimum duration

8 hours.

References

- Module MM1A (Management systems for senior managers).
- IOGP Report No. 510, *Operating Management System Framework for controlling risk and delivering high performance in the oil and gas industry*, June 2014
- IOGP Report No. 511, *OMS in practice. A supplement to Report No. 510 Operating Management System Framework*, June 2014
- IOGP Report No. 423, *HSE management – guidelines for working together in a contract environment*, June 2010.
- IOGP Report No. 432, *Managing HSE in a geophysical contract*, December 2009.
- IOGP Report No. 432-01, *Guidance note on subcontractor management in geophysical operations*, October 2012.

MM2 Operational site management (i.e. site = camp or vessel)

Date this sheet issued: 22 December 2014

Audience

Management (e.g. operations managers, crew supervisors, project managers), field management (e.g. party managers, vessel masters, department heads) and field support personnel..

Objectives

- To ensure the target audience understands their company management system including its HSE components and its application to individual contract performance.

Knowledge

- Of the company management system and its application to individual contracts.
- Of contract requirements and specifications.
- Of the bridging documentation with the client.
- Of local facilities and legal requirements.
- Of local client interface and allocation of responsibilities.

Understanding

- Of the background to contract requirements and specifications.
- Of how to effectively interface the work into the local scene.
- Of the possible problems of working in the local environment.

Skill

- At managing company employees under his/her control.
- At liaising with local representatives and client representatives.
- At planning the day-to-day operation to be most effective within the constraints imposed by local influences, and available resources.
- At achieving performance targets.
- At monitoring and understanding the hazard identification and risk management processes.

Example minimum duration

6 hours.

References

- IOGP Report No. 510, *Operating Management System Framework for controlling risk and delivering high performance in the oil and gas industry*, June 2014
- IOGP Report No. 511, *OMS in practice. A supplement to Report No. 510 Operating Management System Framework*, June 2014
- IOGP Report No. 423, *HSE management – guidelines for working together in a contract environment*, June 2010.
- IOGP Report No. 432, *Managing HSE in a geophysical contract*, December 2009.
- IOGP Report No. 432-01, *Guidance note on subcontractor management in geophysical operations*, October 2012.

MM3 Emergency response planning and communications

Date this sheet issued: 22 December 2014

Audience

Management (e.g. operations managers, country managers, crew supervisors and project managers), field management (e.g. party managers, vessel masters and departments heads) and field support personnel.

Objectives

- To give the target audience the necessary level of competence and understanding to develop hazard vulnerability assessments to establish where and when emergency response plans may be necessary.
- To understand duties, responsibilities and limits of authority and establish how to conduct successful drills.
- To ensure emergency response programs are successful.

Knowledge

- Of the identification of hazards that would create risks to the operations.
- Of the company's specific emergency response systems and techniques.
- Of the various techniques in responding to identified emergency situations.
- Of the local emergency facilities – availability, how to call them out, interface with them.
- Of the levels of competence of employees in emergency response skills (General Awareness, First Aid, Firefighting etc.).

Understanding

- Of the benefits of having emergency response programs in place and a work force that has practiced these responses.
- That putting an emergency response program in place may introduce additional hazards if not communicated or practiced.
- Of the need to communicate the details of the emergency response program to all those involved.
- Of duties, responsibilities and limits of authority.

Skill

- At assessing the circumstances and understanding the scenarios where an emergency response program would be beneficial.
- At integrating company emergency response programs with facilities available locally (fire, hospital, and evacuation).
- At writing the instructions for the emergency response program in a concise but complete style.
- At developing and conducting emergency response exercises/drills to check the effectiveness of the program and make improvements as needed.

Example minimum duration

3 – 6 hours. There will need to be different levels of training and particular skills for specific duties (e.g. at management level – the development of plans, or at awareness level – everyone to understand procedures).

References

- Modules MAM6 (Media handling/public relations), MAM8 (Risk management), MM7 (Crisis management – 3rd line Strategic response), MAM7 (Crisis management – 2nd line Operational response) and FMM27 (Crisis management – 1st line Tactical response).
- IOGP Report No. 472, *Country evacuation planning guidelines*, September 2012, Version 1.1.
- Turner, B.L., Kasperson, R.E., Matson, P.A., McCarthy, J.J., Corell, R.W., Christensen, L., Eckley, N., Kasperson, J.X., Luers, A., Martello, M.L., Polsky, C., Pulsipher, A., Scholler, A. (5 June 2003). "Science and Technology for Sustainable Development Special Feature: A framework for vulnerability analysis in sustainability science". *Proceedings of the National Academy of Sciences* **100** (14): 8074-8079. [doi:10.1073/pnas.1231335100](https://doi.org/10.1073/pnas.1231335100).

MM4A Journey management (Land)

Date this sheet issued: 22 December 2014

Audience

Management (e.g. operations managers, country managers, crew supervisors and project managers), field management (e.g. party managers and department heads) and field support personnel.

Objectives

- To provide the target audience with the necessary level of competence to successfully plan and carry out, and take responsibility for, journey management within the operations they control.
- To understand their role and responsibility for establishing journey management and management thereof.

Knowledge

- Of the laws and regulations affecting the particular type of transport.
- Of the company journey management system and its application to their operation.
- Of the hazards that threaten the safety and success of journeys made in their area of operation.
- Of the vehicles in use and personnel on site.
- Of the specification and capabilities of different types of transport to be able to select the most appropriate type.
- Of the different types and capabilities of distress signals.
- Of radio signals and other communication techniques, and tracking systems.
- Of local/national emergency facilities and back up available.
- Of local/national traffic control systems including the submission of journey plans.
- Of contingency planning in case of emergency situations.
- Of vehicle recovery techniques and hazards.

Understanding

- Of the reasons for installing and maintaining a journey management system.
- Of the need for each journey to be carefully planned and carried out according to plan.
- Of the need for equipping each unit with appropriate medical and survival kits (food,

water, equipment).

- Of the interaction with other transportation.
- Of the requirements for suitable take-off and landing sites (Air and Water).

Skill

- In planning and carrying out a journey management system successfully.
- In recognizing, and mitigating the hazards associated with each journey.
- In optimizing and minimizing the numbers of journeys made.
- In making all those involved aware of the importance of strictly following the journey plan.
- In choosing the safest and least hazardous route.
- In evaluating environmental conditions affecting the journey.

Example minimum duration

3 hours.

References

- Module OSM6 (Vehicle recovery).
- IOGP Report No. 365, *Land transportation safety recommended practice*, April 2005
- IOGP Report No. 365 – Guidance note 2, *Journey management*, April 2005.
- IOGP Report No. 365 – Guidance note 7, *Variations for off-road operations*, 2011.
- IOGP Report No. 365 – Guidance note 10, *Journey management process*, 2011.
- IOGP Report No. 472, *Country evacuation planning guidelines*, September 2012, Version 1.1.
- IOGP Report No. 459, *OGP Life-Saving Rules*, April 2013, Version 2.

MM4B Journey management (Water)

Date this sheet issued: 22 December 2014

Audience

Management (e.g. operations managers, country managers, crew supervisors and project managers), field management (e.g. party managers, vessel masters and departments heads) and field support personnel.

Objectives

- To provide the target audience with the necessary level of understanding to successfully plan and carry out journey management within the operations they control.
- To understand their role and responsibility for establishing journey management and management thereof.

Knowledge

- Of the laws and regulations affecting the particular type of transport.
- Of the company journey management system and its application to their operation.
- Of the hazards that threaten the safety and success of journeys made in their area of operation.
- Of vessels and personnel involved in the project.
- Of vessels towing capabilities and hazards.
- Of the specification and capabilities of different types of transport.
- Of the different types and capabilities of distress signals.
- Of radio signals and other communication techniques, and tracking systems.
- Of local emergency facilities and back up available.
- Of local traffic control systems including the submission of journey plans.

Understanding

- Of the reasons for installing and maintaining a journey management system.
- Of the need for each journey to be carefully planned and carried out according to plan.
- Of the need for equipping each unit with appropriate survival kits (food, equipment).
- Of the possible scope of responsibility and authority including helicopter, small craft and shore deployments.

- Of the security situation in the region with respect to piracy.

Skill

- In planning and carrying out a journey management system successfully.
- In recognizing, and mitigating the hazards associated with each journey.
- In optimizing and minimizing the numbers of journeys made.
- In making all those involved aware of the importance of following the journey plan.

Example minimum duration

3 hours. To be provided by person(s) with qualification, personal knowledge and expertise of the subject and specific nature of operations, or based on accredited material compiled from such knowledge and experience.

References

- IOGP Report No. 355, *Watercraft & water in geophysical operations: A guideline to operations and management*, June 2004.
- IOGP Report No. 472, *Country evacuation planning guidelines*, September 2012, Version 1.1.
- IOGP Report No. 459, *OGP Life-Saving Rules*, April 2013, Version 2.

MM4C Journey management (Air)

Date this sheet issued: 22 December 2014

Audience

Management (e.g. operations managers, country managers, crew supervisors and project managers), field management (e.g. party managers and department heads) and field support personnel.

Objectives

- To provide the target audience with the necessary level of competence to successfully plan and carry out journey management within the operations they control.
- To understand their role and responsibility for establishing journey management and management thereof.

Knowledge

- Of the laws and regulations affecting the particular type of transport.
- Of the company journey management system and its application to their operation.
- Of flight tracking systems.
- Of the hazards that threaten the safety and success of journeys made in their area of operation.
- Of the specification and capabilities of different types of transport.
- Of the different types and capabilities of distress signals.
- Of radio signals and other communication techniques.
- Of local emergency facilities and back up available.
- Of local traffic control systems including the submission of journey plans.

Understanding

- Of the reasons for installing and maintaining a journey management system.
- Of the need for each journey to be carefully planned and carried out according to plan.
- Of the need for equipping each unit with appropriate survival kits (food, equipment).
- Of the interaction with other transportation.
- Of the requirements for suitable takeoff and landing sites.

Skill

- In planning and carrying out a journey management system successfully.
- In recognizing, and mitigating the hazards associated with each journey.
- In optimizing and minimizing the numbers of journeys made.
- In making all those involved aware of the importance of following the journey plan.

Example minimum duration

3 hours.

References

- IOGP Report 390, *Aircraft management guidelines*, July 2008 updated August 2013, Issue 5.
- IOGP Report No. 410, *Air transportation – Recommended practices for contracted air operations*, June 2008.
- IOGP Report No. 420, *Helicopter guidelines for land seismic & helirig operations*, June 2013, Version 1.1.
- IOGP Report No. 472, *Country evacuation planning guidelines*, September 2012, Version 1.1.
- IOGP Report No. 459, *OGP Life-Saving Rules*, April 2013, Version 2.

MM5 Subcontractor management (new)

Date this sheet issued: 22 December 2014

Audience

Upper management (e.g. VP operations, etc.) and management (e.g. operations managers, crew supervisors, project managers).

Objectives

- To provide the target audience with the necessary level of competence to establish and successfully manage a subcontractor management (SCM) process in their company.

Knowledge

- Of the company management system and the benefits of an SCM process, and interfacing documentation.
- Of the company's SCM procedures and pre-qualification process.
- Of the risks involved with subcontractor activities and controls/mitigations in place.
- Of IOGP Report No. 423 and 432 and how they define a process for managing subcontractor companies.
- Of the potential barriers to good subcontractor management.
- Of how long the supply chain is in their company operations.

Understanding

- Of the roles that company managers play in supplier relationships with the equivalent level of management in a subcontractor company.
- Of the roles that subcontractor companies and personnel fill in company operations.
- Of why contractor managers should participate in periodic audits of subcontractor HSE management systems, when time allows and not just leave it to just HSE personnel.
- Of the additional risks that can sometimes be involved with indirect subcontractors or casual service providers.

Skill

- At getting participation from subcontractor managers in meetings and risk assessments, working as one team towards a common safety culture.
- At building good long term relationships with subcontractor managers.
- At engaging with subcontractor personnel during site visits, as well as their own company personnel.
- At getting subcontractors involved in planning as early as possible in a project.
- At assessing whether controls and mitigations are being effectively implemented by subcontractor personnel, from discussions during site visits.

Example minimum duration

6 hours.

References

- Module FMM20 (Managing subcontractor interfaces)
- IOGP Report No. 423, *HSE management – guidelines for working together in a contract environment*, June 2010.
- IOGP Report No. 432, *Managing HSE in a geophysical contract*, December 2009.
- IOGP Report No. 432-01, *Guidance note on subcontractor management in geophysical operations*, October 2012.

MM6 Corporate social responsibility (new)

Date this sheet issued: 22 December 2014

Audience

Upper management (e.g. President, Executive VPs, VP operations, etc.) and management (e.g. operations managers, crew supervisors, project managers).

Objectives

- To ensure the target audience understands the concept of Corporate Social Responsibility (CSR) and how the concept is translated into Company policies and procedures and can be supported by specific programs, projects, initiatives and activities.

Knowledge

- Of the components of CSR: Social Responsibility, Economic Development and Environmental Stewardship.
- Of the evolution of CSR (e.g. Brundtland Commission, Rio Summit, UN Global Compact).
- Of how CSR influences stakeholder relations.

Understanding

- Of society and the positive benefits CSR can have on the external environment.
- Of how CSR fits into the wider strategic business context and company brand.
- Of different educational, human rights and sustainability issues.

Skill

- Excellent interpersonal skills.
- Business insight and commercial awareness.
- Adaptability and empathy.
- Possessing integrity and being open minded.
- Well-developed communication skills, both verbally and in writing.
- Working in partnership with community groups
- Coordinating volunteer activities and events, drumming up support and persuading employee participation.
- Setting up fora where employees can share ideas.

- Looking at activities to ensure they are socially and ethically responsible.

Example minimum duration

4 hours.

References

- Module FMM22 (Social responsibility).
- IOGP Report No. 307, *Strategic health management – Principles and guidelines for the oil & gas industry*, June 2000.
- IOGP Report No. 380, *A guide to health impact assessment in the oil and gas industry*, April 2005.
- IOGP Report No. 389, *Environmental – social – health risk and impact management process*, December 2008.
- IOGP Report No. 385, *Oil & gas: the bridge to a sustainable future*, December 2006.
- IOGP Report No. 334, *Combatting corruption: OGP progress report*, December 2002.
- IOGP Report No. 332, *Key questions in managing social issues in oil & gas projects*, October 2002.
- IPIECA, *Local content strategy*, October 2011.
- IPIECA, *A guide to social impact assessment*, March 2004.
- IPIECA, *Guide to successful, sustainable social investment*, February 2008.
- IOGP/IPIECA, *The oil & gas industry: from Rio to Johannesburg and beyond – Contributing to sustainable development*, 2002
- IPIECA, *A guide to social impact assessment*, March 2004.
- IPIECA, *Indigenous Peoples and the oil and gas industry*, 2nd Edition, March 2012.
- IPIECA, *Voluntary Principles on Security and Human Rights*, January 2012.
- ISO 26000:2010, *Social responsibility*.

MM7 Crisis management – 3rd line Strategic response (new)

Date this sheet issued: 22 December 2014

Audience

Upper management – President, Executive VPs, VP Operations (typically this is the audience but may be different depending on the nature of the range of potential crises).

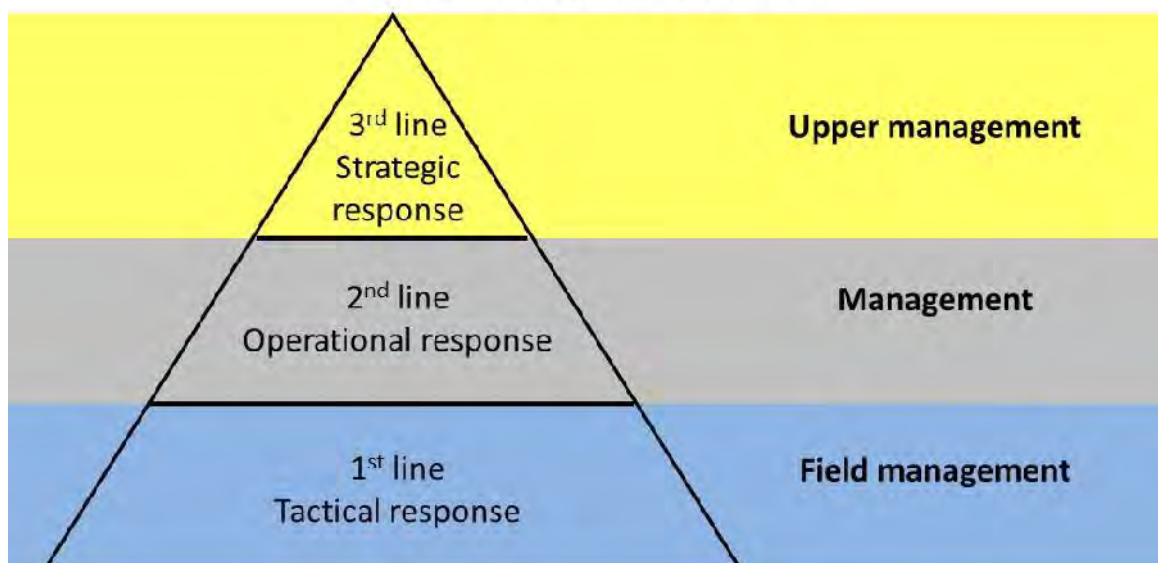
Objectives

- To ensure that the target audience understands the company's system for crisis management and can effectively function in a variety of roles, with responsibilities, on a Strategic crisis management team.

Knowledge

- Of the company's risk assessment procedure to identify potential crisis and security risk.
- Of the company's crisis management procedures to manage identified risks.
- Of managing a crisis which has not been identified (*'always expect the unexpected'*).
- Of the company's crisis management system with established emergency response teams.
- Of the Proactive Management philosophy when managing a crisis to ensure effective handling of any situation or hazard and accidents/incidents.
- Of leading providing Strategic support to the company and 2nd line Operational team.

Crisis management levels



Understanding

- Of the importance of providing adequate resources for the training of company crisis management response teams.
- Of why frequent drills and exercises are important to the company's crisis management process, in determining how emergencies are handled when they actually occur.
- Of the importance of debrief, review and follow-up of 'lessons learned' from a crisis situation.
- Of the importance of allocation of sufficient resources to support the company during the crisis.
- Of the importance of each team or individual having differing but defined roles and responsibilities to support the incident or potential incident.
- Of the responsibilities of a 3rd line Strategic response team leader including:
 - Ensuring that crisis and emergency management is implemented within the company.
 - Deciding which team members are required for a particular emergency depending on the initial potential.
 - Notifying of a major emergency which requires a Strategic response team to be convened.
 - Ensuring adequate personnel and resources are available to the company in order to successfully manage and support a crisis/emergency situation.

Skill

- At managing strategic decisions relating to a crisis.
- At communicating with the company Board of Directors.
- At liaising with National government ministries and departments.
- At liaising with partners, clients and other stakeholders.
- At sharing information and communicating with the media, legal and financial communities.
- At strategic mapping in a crisis.
- At ensuring the company has a working and effective crisis management process in place.
- At successfully implementing and participating in the company crisis management process during drills, and real emergency and crisis response situations.
- At reviewing and critiquing an effective emergency response training plan (which meets regulatory requirements when applicable such as ISM and ISPS) and achieves crisis management response competence for all level response team members.

Example minimum duration

16 hours for basic training (not including regular drills and exercises according to company approved ERP training plan).

References

- IOGP Report No. 308, *Response to demonstrations at company premises*, March 2010.
- IOGP Report No. 309, *Response to demonstrations at offshore facilities*, March 2010.
- IOGP Report No. 400, *Guidelines for oil and gas companies sending employees into hazardous locations*, 2007.
- IOGP Report No. 472, *Country evacuation planning guidelines*, September 2012, Version 1.1.
- Modules MAM6 (Media handling/public relations), MM3 (Emergency response planning and communications), MAM8 (Risk management), MAM7 (Crisis management – 2nd line Operational response) and FMM27 (Crisis management – 1st line Tactical response).

MM8 Security planning (new)

Date this sheet issued: 22 December 2014

Audience

Executive management, senior management, operations managers.

Objectives

- To ensure that the audience is able to effectively plan, establish and manage the security plans for their areas of responsibility, with the assistance for security professionals.

Knowledge

- Of the security issues, risks and Threat Levels in locations that the company operates.
- Of what is required in a Project Security Plan to ensure it is effective.
- Of the company's security policy and procedures.
- Of the company's crisis management process.
- Of the range of possible consequences from security incidents.

Understanding

- Of the importance of successfully addressing social issues in planning so that they don't result in security issues later.
- Of the importance of conducting a security related risk assessment ahead of responding to a tender for a project.
- Of the importance of having a clear and well defined contract in place between client and contractor for all aspects related to security on a project.
- Of the types of barriers and controls used for security risks.

Skill

- At maintaining key relationships with the appropriate security professionals in the company, and externally.
- At developing effective Project Security Plans.
- Ability to conduct a security related risk assessment for the country or location in question.
- At ensuring responsibilities for security are well defined.
- At ensuring appropriate training and other resources are available.

Example minimum duration for training:

8 hours.

References

- IAGC – *Security and Explosive Remnants of War (ERW) Guidelines for the Seismic Industry*, 2014.
- Module MM26 (Corporate social responsibility), FMM28 (Security) and MM7 & MAM7 (Crisis management – 3rd and 2nd level responses).
- IOGP Report No. 332, *Key questions in managing social issues in oil & gas projects*, October 2002.
- IOGP Report No. 472, *Country evacuation planning guidelines*, September 2012, Version 1.1.
- IPIECA, *Local content strategy*, October 2011.
- IPIECA, *A guide to social impact assessment*, March 2004.
- IPIECA, *Guide to successful, sustainable social investment*, February 2008.
- IPIECA, *Indigenous Peoples and the oil and gas industry*, 2nd Edition, March 2012.
- IPIECA, *Voluntary Principles on Security and Human Rights*, January 2012.
- STCW Proficiency in Security Awareness course.
- STCW Company Security Officer course.

Management activity modules

MAM1 Serious incident investigation

Date this sheet issued: 22 December 2014

Audience

Upper management (e.g. Executive VP, VP operations, etc.) and management (e.g. operations managers, crew supervisors, project managers, functional managers (e.g. technical and HSE)).

Objectives

- To ensure the target audience is competent to participate in investigations, either as Investigation Team Leader or Team Member, in a situation where immediate significant action or commitment by the company may be required.
- To be able to effectively handle public, media or government interaction as required.

Knowledge

- Of incident investigation methodology and techniques, including company procedures.
- Of investigation team selection.
- Of the classification and identification of immediate and root causes of incidents.
- Of the local, industry and legal requirements as applicable.
- Of the company's responsibility and liability, including that of senior executives and individuals as outlined in applicable in-country legislation.

Understanding

- Of the implication of consequential effects.
- Of the hidden costs, and impact on people resulting from incidents.
- Of the company and individuals liabilities.

Skill

- At organizing the investigation process.
- At interviewing witnesses.
- At writing factual, clear, concise reports.
- At organizing recovery programs.

- At documenting and proposing recovery programs.
- At recognizing how to prevent a recurrence.
- At interaction with the media, and general public and government organizations as required.

Example minimum duration

12 hours plus 4 hours practical assessment.

References

- Module FMM5 (Incident investigation).

MAM2 Auditing techniques

Date this sheet issued: 22 December 2014

Audience

Designated auditors from upper management, management, field management (e.g. senior managers, operations managers, crew supervisors, party managers, vessel masters) and field support. The people trained in auditing should not be purely based upon position, but a selection from departments in order to fulfill the auditing requirements of the department and organization.

Objectives

- To enable the target audience to conduct HSE audits competently in accordance with own company procedures and industry good practice.

Knowledge

- Of the background to auditing.
- Of types of audit.
- Of company audit procedures.
- Of how to identify and document findings.
- Of methods and plans for effective corrective action.

Understanding

- Of the human elements of audits.
- Of how to conduct the audit without interfering with the progress of work.
- Of interviewing techniques.

Skill

- In organizing an audit team.
- In planning an audit to achieve maximum results.
- In conducting the audit efficiently.
- In identifying areas that are significant to the audit results.
- In asking open questions to obtain justifiable evidence of the HSE management system.
- In writing clear, concise audit reports.

Example minimum duration

16 hours for internal audits. For external audits, up to 40 hours.

It is recommended that Lead Auditors should complete an IRCA (International Register of Certificated Auditors) or ISM (International Safety Management) code auditor approved course of up to one week duration, which contains significant practical experience.

References

- IOGP Report No. 245, *Guidelines for HSE auditing in the geophysical industry*, September 1996.

MAM3 Unsafe act auditing & condition observation, reporting & monitoring

Date this sheet issued: 22 December 2014

Audience

Personnel in line management who are responsible for a site and people or field support: operations managers, vessel masters, superintendents, crew supervisors, party managers, department heads, and also HSE advisors.

Objectives

- To ensure that the target audience can conduct unsafe act and unsafe condition observation audits effectively, and understand the reasons for doing so.
- To ensure the target audience understands how unsafe acts and conditions potentially occur, how people are involved and aspects of behavioural-based safety is applicable so that they can offer assistance in prevention.

Knowledge

- Of the company's procedures for unsafe act/condition auditing/HAZID, and the system formalization of observations so that they can be effectively closed out to prevent reoccurrence.
- Of the effects that reducing unsafe acts/conditions has on the total HSE performance and HSE culture of the site.
- Of work hazard categories, classification and definitions and identification.

Understanding

- Of the reason for conducting unsafe act and condition audits.
- Of hazard definitions 'the potential to cause harm'.
- Of risk definitions 'the probability of harm occurring'.
- Of behavioural-based safety methodology applicable to unsafe act/condition observation audits.
- Of the company's management system processes, tools and forms for unsafe act/condition observation audits.

Skill

- Ability to identify unsafe acts and conditions.
- Ability to communicate the hazards and risks in a manner that is non-threatening to

persuade people to act differently in order that the workplace is safer for all persons.

Example minimum duration

6 hours.

References

- Module AM21 (Responsible conduct – including Stop Work authority) and
- IOGP Report No. 245, *Guidelines for HSE auditing in the geophysical industry*, September 1996.

MAM4 Lockout/tagout and permit to work systems

Date this sheet issued: 22 December 2014

Audience

Senior managers, operations managers, crew supervisors, project managers and field support personnel.

Objectives

- To ensure the target audience understands their line management responsibilities in establishing, operating and managing lockout/tagout and Permit to Work (PTW) systems at their work sites.

Knowledge

- Of the company's lockout/tagout and permit to work procedures and the conditions where they apply.
- Of the different techniques and competencies required for using these systems.
- A sound knowledge risk management principles.
- Of how to audit management systems and their processes, in particular the company and/or site PTW system.

Understanding

- Of the reasons why these systems are used.
- Of the types of situation that might occur.
- Of the way people behave and why **HSE** critical controls are necessary.
- Of the importance of making all involved personnel aware when these systems are used and how they operate.

Skill

- In recognizing where and when these systems are required (risk management).
- In implementing the system appropriate to the worksite.
- In auditing the system effectively to ensure the process is suitable and sufficient for moral, legal and ethical reasons and to ensure critical activities are controlled to the required level set as per company policy and procedure.
- In establishment of a training system to ensure training is completed and effective with personnel getting the necessary skills to conduct activities safely.

Example minimum duration

2 hours.

References

- Modules OSM13 (Permit to work and lockout/tagout) and FMM9 (Lockout/tagout and permit to work).
- Company PTW system.
- IOGP Report No. 189, *Guidelines on permit to work (P.T.W.) systems*, January 1993.
- IOGP Report No. 459, *OGP Life-Saving Rules*, April 2013, Version 2.

MAM5 Substance abuse program implementation

Date this sheet issued: 22 December 2014

Audience

Designated auditors from upper management, management and field management (e.g. senior managers, operations managers, crew supervisors, party managers, vessel masters, department heads).

Objectives

- To ensure that the target audience understands reasonable suspicion and can manage the company's policy.
- To ensure the target audience can implement the appropriate substance abuse monitoring in accordance with company's written procedures and understand the need for confidentiality and security, as well as the legal requirements.

Knowledge

- Of the legal requirements, rights of individuals.
- Of the different types of substances and their effects and symptoms.
- Of the company's policy and procedures.
- Of the different ways of monitoring and testing and their relative effectiveness.
- Of the need for further evaluation by a medical officer of any samples (if required by the law of the country).

Understanding

- Of reasonable suspicion.
- Of when to test.
- Of the reasons for confidentiality.
- Of how to label samples correctly.
- Of what abuse is.
- Of the different effects abuse may have on people, and how these effects might compromise safety.

Skill

- At recognizing symptoms.
- At using the different monitoring and testing techniques and equipment.
- At handling people.

Example minimum duration

3 hours.

References

- IOGP Report No. 306, *Substance abuse: Guidelines for management*, June 2000.

MAM6 Media handling/public relations

Date this sheet issued: 22 December 2014

Audience

Upper management (e.g. President, Executive VPs, VP operations, etc.) and management (e.g. operations managers, crew supervisors, project managers).

Objectives

- To ensure that the target audience:
 - Understands their company's policy/process for handling media and public relations and how client company requirements may modify those policies/processes.
 - Is provided with the skills and understanding how to respond in an emergency as well as general situations.
 - Can effectively work with the media and public in an emergency situation.

Knowledge

- Of the legal rights of the company.
- Of when, how and who to contact within company and client company to handle media and public relations.
- Of best practices in dealing with media and general public.
- Of how the media gather information and how they may use it.
- Of how to generate and issue a press notice.

Understanding

- Of company and client company policies/process for handling media and public relations.
- Of the preferred method to handle the media or public.
- Of what information can and cannot be released.
- Of the implications of public statements – human, legal, financial and reputation.
- Of how to address and effectively communicate a message to the media and public.
- Of the role social media (i.e. Facebook, Instagram, Twitter, etc.,) may have in dealing with the media and public.

Skill

- At effective communications and presentations.
- Ability to develop and present written or verbal reports which are factual, concise, and clear.
- Ability to control interviews, and public debate.

Example minimum duration

6 hours.

References

- Module MAM7 (Crisis management), AM32 (Impact of social media) and FMM25 (Social media usage awareness).
- IOGP Report No. 308, *Response to demonstrations at company premises*, March 2010.
- IOGP Report No. 309, *Response to demonstrations at offshore facilities*, March 2010.

MAM7 Crisis management – 2nd line Operational response (new)

Date this sheet issued: 22 December 2014

Audience

Management – operations manager, country manager, crew supervisor, project manager (typically this is the audience but may be different depending on the nature of the range of potential crises).

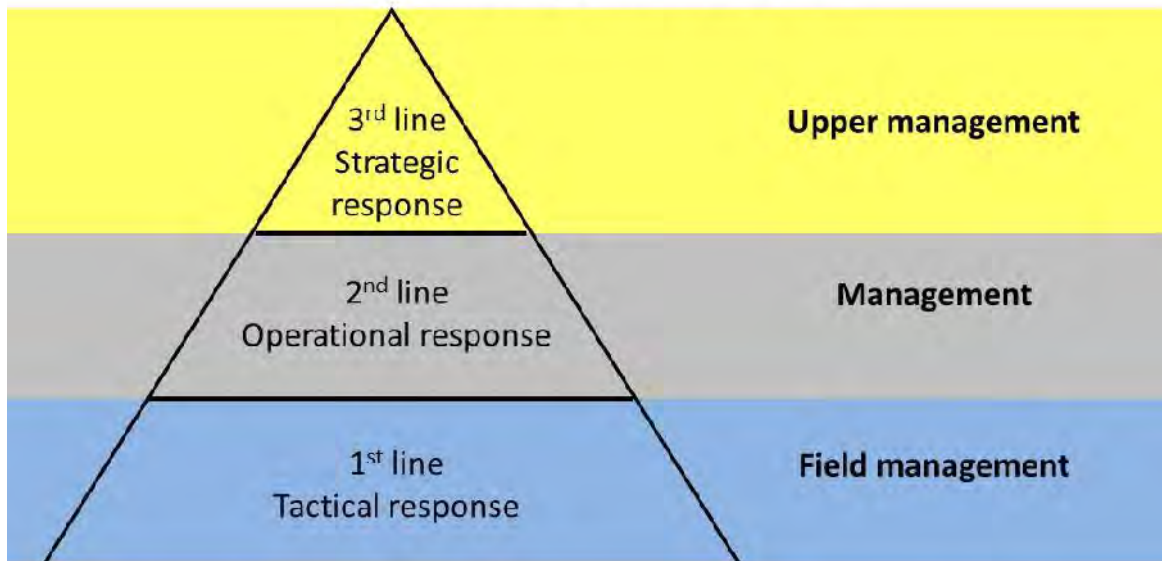
Objectives

- To ensure that the target audience understands the company's system for crisis management, and can effectively function in a variety of roles, with responsibilities, on an Operational crisis management team. (All offices, vessels and crews should have in place an Emergency Response Plan (ERP) to deal with all emergency situations that may arise as a direct result of the operation.)

Knowledge

- Of the company's risk assessment procedure to identify potential crisis and security risk.
- Of the company's crisis management procedures to manage identified risks.
- Of managing a crisis which has not been identified (*'always expect the unexpected'*).
- Of the company's crisis management system with established Emergency response teams.
- Of the Proactive Management philosophy when managing a crisis to ensure effective handling of any situation or hazard and accidents/incidents.
- Of leading a well-trained crisis team and how to support the 1st line Tactical (or incident) team and 3rd line Strategic team.

Crisis management levels



Understanding

- Of the importance of frequent drills and exercises of the company's crisis management system.
- Of the importance of debrief, review and follow-up of 'lessons learned' from a crisis situation.
- Of the importance of providing sufficient resources to support Next of Kin handling.
- Of the responsibilities of a 2nd line Operational response team leader including:
 - Reviewing the current knowledge of the incident and deciding whether an initial 2nd line emergency response team is required.
 - Deciding which team members are required for a particular emergency depending on the initial potential.
 - Notifying of a major emergency which requires an emergency response team to be convened.
 - Notification to the 3rd line Strategic response team.

Skill

- At successfully implementing and following the company crisis management procedure during drills, and real emergency and crisis response situations.
- At providing technical advice.
- At interfacing with external resources.
- At providing confirmed information for media response.

- At communicating with the authorities
- At developing and implementing an emergency response training plan that meets upper management approval and regulatory requirements when applicable (such as ISM and ISPS) and achieves crisis management response competence for all level response team members.

Example minimum duration

16 hours for basic training (not including regular drills and exercises according to company approved ERP training plan).

References

- IOGP Report No. 308, *Response to demonstrations at company premises*, March 2010.
- IOGP Report No. 309, *Response to demonstrations at offshore facilities*, March 2010.
- IOGP Report No. 400, *Guidelines for oil and gas companies sending employees into hazardous locations*, 2007.
- IOGP Report No. 472, *Country evacuation planning guidelines*, September 2012, Version 1.1.
- Modules MAM6 (Media handling/public relations), MM3 (Emergency response planning and communications), MAM8 (Risk management), MM7 (Crisis management – 3rd line Strategic response) and FMM27 (Crisis management – 1st line Tactical response).

MAM8 Risk management (new)

Date this sheet issued: 22 December 2014

Audience

Line management who are responsible for personnel and sites: upper management (e.g. President, Executive VPs, VP operations, etc.) and management (e.g. operations managers, crew supervisors, project managers).

Pre-requisites: Management system module MM1A or MM1B.

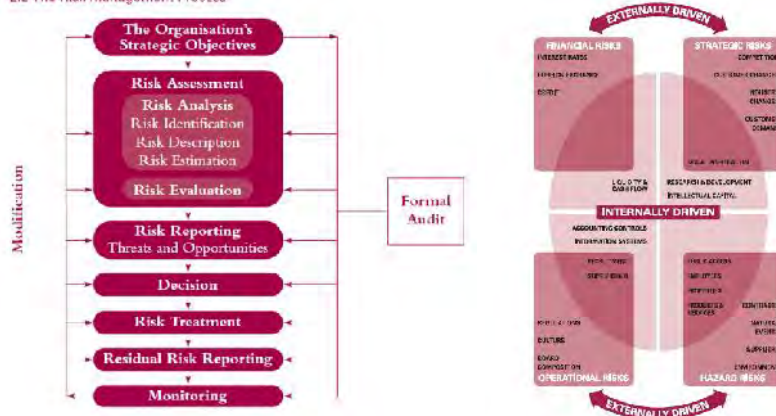
Objectives

- To ensure the target audience can identify all components of a company's risk management process and how it interacts within its management system.
- To ensure the target audience can identify hazards, lead risk assessments, identify and implement appropriate control and mitigations, assess the effectiveness of controls, with the overall effect of reducing risks.

Knowledge

- Of the company's management system, risk management process and hazard register.
- Of the industry fatality database called the IAGC Aide Memoir for Geophysical Risk Assessors.
- Of the hazards and risks at all locations and sites under their area of responsibility.
- Of the ISO 31000 Risk Management process.

2.2 The Risk Management Process



Understanding

- Of the implications of reducing risk to as low as reasonably practicable (ALARP) when managing operations.
- Of the general hierarchy of controls.
- Of how to determine and implement effective controls and also assess their adequacy.

Skill

- Ability to lead hazard identification and risk assessment meetings.
- Ability to assess the effectiveness of controls and mitigations during discussions with personnel at the work site.
- Ability to demonstrate the principle of reducing risks to as low as reasonably practicable by evaluation of options or alternatives.

Example minimum duration

4 hours.

References

- Modules FMM24 (Field risk management) and FMM6 (Job safety analysis).
- IOGP Report No. 510, *Operating Management System Framework for controlling risk and delivering high performance in the oil and gas industry*, June 2014
- IOGP Report No. 511, *OMS in practice. A supplement to Report No. 510 Operating Management System Framework*, June 2014
- IOGP Report No. 423, *HSE management – guidelines for working together in a contract environment*, June 2010.
- IOGP Report No. 432, *Managing HSE in a geophysical contract*, December 2009.
- IAGC Aide Memoir for Geophysical Risk Assessors. <http://www.iagc.org/AideMemoir/> .
- ISO 31000:2009, *Risk management – Principles and guidelines*, 1st Edition, November 2009.

MAM9 Ergonomics implementation (new)

Date this sheet issued: 22 December 2014

Audience

Senior management (e.g. VP operations, etc.) and management (e.g. operations managers, crew supervisors, project managers).

Objectives

- To ensure the target audience understands:
 - The importance of ergonomics in the workplace.
 - The company's ergonomics program.
 - The individual's role in the implementation of the ergonomics program.

Knowledge

- Of the concepts of ergonomics in the workplace (i.e., equipment/tool design and use, body position, workstation setup, etc.)
- Of the factors that may affect the safe design and use of equipment and devices in the workplace.
- Of recommended ergonomic setup and use of workstations, appropriate use of tools, payout of office and camps, etc.

Understanding

- Of the possible consequences of poorly designed equipment, workstation setup and at-risk ergonomics behaviours.
- Of cumulative stress disorders and how to reduce people's exposure to risk.
- Of how to recognize safe and at-risk ergonomic behaviours.
- Of the importance of auditing, correcting and maintaining an ergonomically designed work setting.

Skill

- Ability to communicate, promote and monitor the company's ergonomic program.
- Ability to recognize safe and at-risk behaviours and provide advice/coaching to personnel.
- Ability to recognize ergonomic related problems associated with tools, equipment, workstation setup, offices and camps and offer solutions.

Example minimum duration

3 hours.

References

- Module FMM19 (Ergonomics).
- IOGP Report No. 441, *Establishing an ergonomics programme for computer usage in an office environment*, July 2010.

MAM10 Safety leadership (new)

Date this sheet issued: 22 December 2014

Audience

Upper management (e.g. President, Executive VPs, VP operations, etc.), management (e.g. operations managers, crew supervisors, project managers), field management (party managers, vessel masters, department heads) and field support personnel.

Objectives

- To ensure that managers who make site visits know how to optimally interact with the work force, can verify that hazard controls are being effective and provide a leadership example to the workforce.

Knowledge

- Of the IOGP Safety Culture Ladder.
- Of the elements of a safety culture.
- Of the risk register, recent risk assessment and hazards involved for the site being visited.
- Of the HSE critical procedures at the site and other hazard controls and barriers.
- Of 360 degree appraisal tools for leaders (e.g. SAFE from *Hearts and Minds*).

Understanding

- Of the importance of being consistent as a leader (i.e. 'walk the talk'), appearing as genuine, ethical and accessible, and avoid sending mixed-signals.
- Of the value of implementing lessons learned across the organization.
- Of the impact that leadership can have on safety performance and culture.
- Of the importance of engaging the workforce.
- Of the importance of frequent communications.
- Of the importance of pre-planning for a site visit.
- Of the risks associated with activities under their control, or at the site being visited.

Skill

- At holding conversation during site visits that put workers at ease.
- At asking questions on site visits which are involved enough to determine if hazard controls are working.
- At providing timely feedback and recognition.
- At being able to instill confidence in people to utilize the Stop Work Authority when necessary, without fear of retaliation.
- At being a good listener and asking open-ended questions.

Example minimum duration

8 hours.

References

- Module AM21 (Responsible conduct – including Stop Work Authority)
- IOGP Report No. 452, *Shaping safety culture through safety leadership*, October 2013.
- IOGP Report No. 435, *A guide to selecting appropriate tools to improve HSE culture*, March 2010.
- IOGP Report No. 368, *Human Factors – a means of improving HSE performance*, June 2005.
- ICMM – *Leadership Matters: Managing fatal risk guidance*, April 2010.
- ICMM – *Leadership Matters: The elimination of fatalities*, March 2009.
- COS-3-01 – *Guidelines for Leadership Site Engagement for the Deepwater Industry, First Edition*, May 2013.
- ENFORM – *Supervisor Competency Guideline*, October 2010.
- *Hearts and Minds – Safety Appraisals For Everyone (SAFE) appraisal tool* – <http://www.safeappraisal.org>

Field management modules

FMM1 Meetings & committee organization

Date this sheet issued: 22 December 2014

Audience

Field management (e.g. party managers, vessel masters and department heads).

Objectives

- To provide the target audience with the ability to plan, organize and control meetings and committees to be effective.

Knowledge

- Of what topics are best discussed in meetings.
- Of the requirements for planning and holding effective meetings – generating agendas, timing of meetings, need for a chairman, who should attend, keeping to the agenda, getting action points recorded, prioritized and actioned.
- Of what presentation aids are best employed.

Understanding

- Of the need to clearly state the outcome of discussions in the meeting minutes.
- Of the need to agree to the outcome of each agenda item before moving on to the next.
- Of human behaviours that may develop during meetings.

Skill

- In chairing meetings – controlling attendees, staying with the agenda and time allocation.
- At extracting input from all those with valuable comment – handling people.
- At writing clear concise minutes with action points allocated to responsible people.

Example minimum duration

2 hours.

FMM2 Incident reporting and classification

Date this sheet issued: 22 December 2014

Audience

Field management (e.g. party managers, vessel masters and department heads) and field support personnel.

Objectives

- To provide the target audience with the ability to classify incidents and to produce accurate and comprehensive reports in accordance with the company, industry and statutory (national, international, class, flag state) requirements.

Knowledge

- Of the definitions of each class of HSE incident, including high potential incidents.
- Of which classes are recordable.
- Of work injuries.
- Of measurable reportable spills.
- Of how to calculate exposure hours, Lost Time Injury Frequency (LTIF), occupational illness frequency, Total Recordable Case Frequency (TRCF) reportable environmental incidents and other company defined statistics.
- Of statutory time frames for reporting.

Understanding

- Of the reasons for and benefits gained from reporting incidents.
- Of how to gain the maximum learning from incidents.
- Of the hidden costs and impact on people resulting from incidents.

Skill

- The ability to classify an incident correctly.
- The ability to write clear, unambiguous reports and use the information provided to achieve maximum 'learning from the incident'.
- In determining the root causes of the incident and identifying the recommendations or corrective actions that will prevent a reoccurrence.
- At writing meaningful corrective actions that prevent re-occurrence.

Example minimum duration

2 hours.

FMM3 Environmental management

Date this sheet issued: 22 December 2014

Audience

Field management (e.g. party managers, vessel masters and department heads) but also management and upper management when appropriate.

Objectives

- To provide an update on the world attitudes to the environment,
- To provide an understanding of the effects of geophysical operations on the environment, including social impact;
- How these effects can be reduced by survey design, choice of season, and use of suitable equipment;
- How to manage the challenges to achieve the least impact, achieve better energy efficiency and exploit recycling opportunities.

Knowledge

- Of the most common situations where geophysical operations affect the environment, including damage from cutting operations and vehicles, waste, noise, drilling, use of explosives, chemicals, fuel stocks, and marine life and sound.
- Of the flora, fauna and social impacts, and inter-relationships.
- In depth and practical knowledge of Environmental Impact Assessments.
- In depth knowledge of local and international Environmental requirements, e.g. Legal and Other Register ISO 14001.

Understanding

- Of the value of, and how best to use an environmental impact assessment.
- Of which activities will have an effect on the environment.
- Of the principles by which these effects can be mitigated.
- Of the basic principles and requirements of ISO 14001.

Skill

- At producing and operating an effective environmental plan.
- To be able to identify the specific activities of the operation that will cause damage.
- At learning techniques for minimizing damage, and assigning personnel and equipment to achieve this.

Example minimum duration

6 hours (however the emphasis on environmental issues is increasing and as such the time required to deliver this course will increase as time progresses).

References

- Module FMM4 (Hazardous and other waste management).
- ISO 14001, *Environmental management systems – Requirements with guidance for use* (2004).
- IOGP Report No. 413, *Guidelines for waste management with special focus on areas with limited infrastructure*, March 2009, Rev. 1.1.
- IOGP Report No. 389, *Environmental-Social-Health Risk Impact Management Process*, April 2007.
- IAGC – *Environmental Manual for Worldwide Geophysical Operations*, 2013 edition.

FMM4 Hazardous and other waste management

Date this sheet issued: 22 December 2014

Audience

Field management (e.g. party managers, vessel masters and department heads, including camp managers).

Objectives

- To provide the target audience with the ability to effectively manage hazardous and other waste associated with geophysical operations from 'cradle to grave'.

Knowledge

- Of the different waste streams produced as a result of geophysical operations.
- Of the statutory and company requirements to eliminate, reduce, reuse, recycle and disposal of hazardous and other waste.
- Of the methods used to control, store, segregate and contains spills or releases of waste.

Understanding

- Of the impact that hazardous and other waste can have on both people's health and on the environment and how to effectively manage it in a responsible manner.

Skill

- Ability to identify, plan and manage an effective waste management system appropriate for the statutory and company requirements.
- At waste measurement – tracking, performance and reporting.

Example minimum duration

3 hours.

References

- Module FMM3 (Environmental management).
- IOGP Report No. 413, *Guidelines for waste management with special focus on areas with limited infrastructure*, March 2009, Rev. 1.1.
- IAGC – *Environmental Manual for Worldwide Geophysical Operations*, 2013 edition.

FMM5 Incident investigation

Date this sheet issued: 22 December 2014

Audience

Field management (e.g. party managers, vessel masters and department heads) and HSE advisors.

Objectives

- To provide the target audience with the ability to organize and conduct effective and efficient incident investigations.

Knowledge

- Of the company procedures and lines of communication.
- Of the industry and statutory requirements.
- Of the classification of incidents.
- Of investigation techniques, including techniques of interviewing witnesses.
- Of general methods of gathering pertinent information.
- Of the difference between immediate and root causes.
- Of any local regulatory requirements.

Understanding

- Of the need for prompt investigations.
- Of the importance of investigating all incidents, High Potential incidents and near misses.
- Of how to determine the immediate and root causes.
- Of the importance of communicating in a clear fashion the findings of the investigation.
- Of the reason to follow up on the implementation of all recommendations.

Skill

- At conducting an incident investigation effectively.
- At gathering factual information.
- At interviewing witnesses.
- At identifying the causes of incidents.
- To be able to write applicable and effective corrective actions, which prevent re-

occurrence.

- At producing clear, unambiguous and timely reports.
- At working as part of a team of investigators.

Example minimum duration

12 hours plus 4 hours practical assessment.

References

- Module MAM1 (Serious incident investigation).

FMM6 Job safety analysis

Date this sheet issued: 22 December 2014

Audience

Department heads and operators.

Objectives

- To comply with industry guidelines to produce a site specific hazard register.
- To identify the hazards and manage the associated risks of each job category within the operation.
- To be able to lead a team in producing a documented job safety analysis (JSA).

Knowledge

- Of what is a hazard, what is risk.
- Of the company's hazard management system.
- Of the different methods for carrying out job hazard analyses, including health, safety and environmental aspects and when to apply them.
- Of the types of work conducted and the hazards associated with each job.
- Of how to mitigate/control hazards.

Understanding

- The importance of job hazard analyses and when to apply them.
- The different types of hazards.
- The job and people related factors and their inherent hazards including the work environment, task factors and organizational factors.
- The concept of As Low As Reasonably Practicable (ALARP).

Skill

- At clearly identifying the hazards and producing the relevant hazard sheets.
- At writing safe working procedures.
- At producing clear documented assessments.
- At communicating the hazards to the work force and others involved.
- At writing effective corrective actions that will prevent re-occurrence.
- At developing effective control measures for the identified hazard.

Example minimum duration

3 hours.

References

- Company hazard register.
- IOGP Report No. 217, *Generic Hazard Register for Geophysical Operations*, December 1994.
- Wikipedia – ALARP – For a risk to be ALARP it must be possible to demonstrate that the cost involved in reducing the risk further would be grossly disproportionate to the benefit gained.
- Module FMM24 (Field risk management).

FMM7 Fire prevention and control

Date this sheet issued: 22 December 2014

Audience

Field management (e.g. party managers, vessel masters and department heads).

Objectives

- To formulate an effective fire plan.
- To ensure that the target audience understands the principles and specific sound practices of fire prevention and how they apply to the various structure, equipment, activities and layout.
- To be able to formulate, direct and execute appropriate fire control strategies, tactics and tasks in the event of a fire.

Knowledge

- Of the company's fire prevention standards.
- Of classes of fire and their chemistry.
- Of the classification and rating of fire extinguishers.
- Of incompatible materials.
- Of proper use, storage and maintenance of fire control equipment.
- Of appropriate strategies and tactics for the types of fires to be encountered.
- Of the likely ignition sources of fire outbreak and the various detection systems.

Understanding

- Of how principles of fire prevention are applied.
- Of the limitations of equipment and the training needed to successfully operate the fire control equipment.
- Of how to prevent fires by controlling the three components of fire.
- Of the nature and types of flammable and combustible materials on site, including fuels, gases, metals etc.

Skill

- At writing and implementing an effective fire plan for each operation.
- Ability to identify and eliminate fire hazards.
- Ability to operate and effectively use fire control equipment.

- Ability to effectively communicate prevention and control strategies and tactics.

Example minimum duration

6 hours.

References

- Modules OSM26 (Basic fire-fighting techniques), OSM27 (Fire warden) and OSM 28 (Fire-fighting team support – land & marine operations).

FMM8 Personal protective equipment – its proper use

Date this sheet issued: 22 December 2014

Audience

Field management (e.g. party managers, vessel masters and department heads).

Objectives

- To ensure the implementation of the company's personal protective equipment (PPE) policy and lead by example.
- To ensure that the target audience are competent to issue the appropriate PPE.
- To ensure that they are able to instruct employees in the proper use and care of PPE.
- To ensure that they understand the limitations and use of PPE together with other techniques of managing hazards.

Knowledge

- Of the company's policy with regard to the issue and use of PPE.
- Of risk assessment linked to the selection of PPE and the type of PPE required for different tasks and risks.
- Of the properties of materials used in PPE manufacture.
- Of the information and instructions provided by the manufacturers for correct use, maintenance and storage of PPE.

Understanding

- Of how the various materials used in PPE manufacture provide protection.
- Of the human factors that cause employees to misuse PPE.
- Of the need to conduct a risk assessment for the selection of the correct PPE and further risk assessment after the PPE is issued, to identify any new hazards.
- Of why PPE should be of the correct size and fit.

Skill

- At identifying risks and activities in the work place that would benefit from the use of PPE.
- At persuading employees to use PPE correctly and take care of it.
- At deciding what design of PPE is most appropriate.

Example minimum duration

3 hours.

FMM9 Lockout/tagout and permit to work

Date this sheet issued: 22 December 2014

Audience

Field management (e.g. party managers, vessel masters and department heads. Persons who will issue a permit to work.

Objectives

- To ensure the target audience is competent to:
 - Identify and manage high risk and/or simultaneous activities that have potential for stored energy that can cause harm.
 - Put these permit to work and lockout/tagout control systems in place to manage and mitigate the risk.
 - Operate these control systems effectively, where they are necessary.

Knowledge

- Of how the systems operate that are to be controlled.
- Of what the key hazards are associated with the systems (electricity, pressure, moving parts, air quality, height, speed, weight, explosives properties, toxic properties, temperature, etc.).
- Of the means of mitigating the hazards before issuing a permit.
- Of the correct sequence of close down and start-up of systems.
- Of the different techniques of lockout/tagout.
- Of the management and training of Permit to Work (PTW) systems.
- Of applicable legal requirements.
- Of all the company and local rules applying to the operations of the PTW system.
- Of the use of all the different forms and records associated with the PTW system.

Understanding

- Of the aspects and descriptions of hazardous energy controls and lockout/tagout minimum requirements.
- Of the need to protect employees working on high risk activities from their own and others acts.
- Of the specific responsibilities associated with issuing permits.
- Of the training requirements for the various role players.

- Of the benefits of the buddy system. The individual responsibilities of the team working a lockout/tagout or permit to work system.
- Of shift handover requirements.
- Of the actions to be taken in an emergency situation.

Skill

- At implementing a lockout/tagout or permit to work system that is fail safe.
- At establishment of a training schedule to ensure training is conducted at the different competence levels within the specific operations.
- At assigning suitably competent employees to lockout/tagout, and permit to work teams.
- At communicating, bearing in mind multi language locations.
- At auditing and monitoring requirements of the PTW and lockout/tagout systems.

Example minimum duration

3 hours. A written exam or suitable assessment should be included in the training. Case histories of accidents or near misses involving failure of the PTW system should be included.

References

- Modules OSM13 (Permit to work & lockout/tagout) and MAM4 (Lockout/tagout and permit to work systems).
- Company PTW system.
- IOGP Report No. 189, *Guidelines on permit to work (P.T.W.) systems*, January 1993.
- IOGP Report No. 432, *Managing HSE in a geophysical contract*, December 2009.
- IOGP Report No. 459, *OGP Life-Saving Rules*, April 2013, Version 2.

FMM10 Working at heights & fall prevention

Date this sheet issued: 22 December 2014

Audience

Field management (e.g. party managers, vessel masters and department heads or anyone in charge of operations where safety harnesses are used).

Objectives

- To ensure that the target audience have the necessary ability to supervise the work in a safe and efficient manner.

Knowledge

- Of the types of harnesses for different situations.
- Of the theory of harnesses and anchor points.
- Of company procedures.
- Of working at heights and permit to work systems.
- Of use of fall arresters and fall arrest tracks.

Understanding

- Of the reasons for using harnesses.
- Of the effects of misuse.
- Of fall prevention vs. fall protection.
- Of a fall distance calculation as part of a fall protection plan.

Skill

- At identifying situations where safety harnesses should be used.
- At setting up a safe and effective harness work system.
- At communicating the need to ensure proper use to the involved work force.

Example minimum duration

2 hours.

References

- Modules AM30 (Working at heights & fall prevention), OSM22 (Safety harnesses) and OSM32 (Working at heights).
- IOGP Report No. 459, *OGP Life-Saving Rules*, April 2013, Version 2.

FMM11 Workshop practices

Date this sheet issued: 22 December 2014

Audience

Field management (e.g. party managers, vessel masters and department heads or anyone supervising work in the workshop).

Objectives

- To ensure that company workshop operations are supervised and audited in accordance with company procedures and industry guidelines.

Knowledge

- Of the types of machinery in use and their associated hazards, electrical theory, stores procedures.
- Of hazardous materials.
- Of record keeping.
- Of maintenance.
- Of choosing the proper tool for the job.
- Of the required control and recovery measures.

Understanding

- Of why control measures and procedures are in place.
- Of what to do in an emergency.
- Of good housekeeping.

Skill

- At recognizing unsafe practices.
- At communicating with employees.

Example minimum duration

3 hours.

FMM12 Seismic line bridging operations

Date this sheet issued: 22 December 2014

Audience

Field management (e.g. party managers, vessel masters and department heads including surveyors and observers in charge of operations where line bridging is used).

Objectives

- To ensure that seismic line bridging is properly constructed in accordance with company procedures, geophysical industry guidelines and agreed site specific requirements.
- To provide safe effective passage to line personnel.

Knowledge

- Of company procedures.
- Of geophysical industry guidelines.
- Of legal requirements.
- Of types of material suited for bridging.
- Of bridging techniques and construction.

Understanding

- Of how bridging provides for safer movement.
- Of how materials degrade.
- Of the best type of bridging for the situation.
- Of the importance of good hand holds and foot support.
- Of the environmental and social implications of installing bridging.
- Of the project's Environmental & Social Impact Assessment (ESIA) regarding the social impacts (desirable or undesirable) of new access routes.
- Of the possible need to remove the bridging (e.g. refer to the project's ESIA).

Skill

- At selecting the most appropriate material to build line bridging.
- At recognizing the need for and design of bridging for each type of operation.
- At understanding when methods, techniques or materials may need to be reviewed.

Example minimum duration

2 hours. Training to be provided by person(s) with personal experience and expertise of the subject or well documented materials covering the specific equipment. Training record to be endorsed with the type of terrain and bridging.

References

- The project's Environmental and Social Impact Assessment (ESIA).

FMM13 Chainsaw operations & tree felling

Date this sheet issued: 22 December 2014

Audience

Field management (e.g. party managers and department heads).

Objectives

- To provide line management, who are directly responsible for overseeing chainsaw operations, with the necessary ability to select personnel, assure competency and manage such operations safely and efficiently.

Knowledge

- Of the types of injury that can be inflicted by chainsaw activities.
- Of the mechanics of chain-saws – how they work.
- Of the theory of tree felling - cuts, direction of fall, different types of trees, coping with different terrains.
- Of the legal and regulatory requirements of the work location.

Understanding

- Of the correct use of chainsaws and correct tree felling techniques.
- Of the natural abilities required of chainsaw operators (good vision, good hand/eye coordination, physically fit, mature).
- Of the hazards associated with chainsaw work, and how to manage them for a safe and environmentally successful outcome.
- Of the use of PPE and special protective equipment.
- Of emergency response.

Skill

- At assessing the competence of chainsaw operators.
- At organizing the chainsaw operation in a safe and efficient manner and assuring adequate resources exist for safe operations.

Example minimum duration

6 hours.

References

- Module OSM19 (Chainsaws and tree felling)
- IAGC Chainsaw Operator Competency Checklist (Level 1), 2013.
- WorkSafe BC – B.C. Faller Training Standard BK96, ISBN 1496-6476, 2012.

FMM14 Seismic explosives operations

Date this sheet issued: 22 December 2014

Audience

Party managers and department heads who manage operations where explosives are used.

Objectives

- To ensure that explosives are transported, stored and used safely and correctly and the risk of incidents is maintained at the lowest level practicable.

Knowledge

- Of types of explosives.
- Of the theory of detonation.
- Of explosive storage, handling and transportation.
- Of dealing with unexploded charges,
- Of environmental issues and impacts.
- Of drilling techniques.
- Of hazard and risk assessment procedures.
- Of peak particle velocity surveys.
- Of in country legal and local requirements and company safety and security procedures.
- Of chemical data sheets, SDS and associated labeling conventions.
- Of geophysical industry best practices and procedures.

Understanding

- Of what could happen.
- Of how to protect against accidental detonation.
- Of general public concern.
- Of recovery procedures in case of injury or damage to the environment.

Skill

- At implementing geophysical industry best practice.
- At planning, executing and interpreting peak particle velocity surveys.
- At effective stakeholder interaction.

Example minimum duration

3 hours.

References

- Module OSM21 (Explosives handling and shot hole loading).

FMM15 Hazardous materials handling

Date this sheet issued: 22 December 2014

Audience

Field management (e.g. party managers, vessel masters and department heads and all those who will be required to supervise the handling and use hazardous materials).

Objectives

To provide the target audience with the ability to manage the HSE in the purchasing, handling, transportation, use and storage of hazardous materials associated with their work place and work activities.

Knowledge

- Of how to identify hazardous materials that require specialist handling or training.
- Of the classification of, and symbols used to identify hazardous materials.
- Of the use of Safety Data Sheets (SDS).
- Of the personal protective equipment required when handling the various hazardous substances.
- Of the regulations and the company safe working procedures relating to the handling of hazardous materials.
- Of the documentation process associated with the use of some hazardous materials.
- Of what to do in case of unintentional exposure or emergency situation involving hazardous materials.
- Of the approved methods of storage and transportation.
- Of safe methods of disposal.

Understanding

- Of the effect the hazardous materials could have on people and the environment.
- Of the importance of identifying safer substitutes for the hazardous substances in use.
- Of the importance of using less hazardous, recyclable and reusable materials whenever prudent.
- Of the necessity to train all personnel who work with the hazardous materials.
- Of the importance of following the manufacturer's instructions and handling precautions

Skill

- The ability to carry out risk assessments on the hazardous materials used in the operations and provide measures to prevent and control the risks.
- The ability to initiate recovery and mitigation measures in case of spillage or loss of control.

Example minimum duration

3 – 6 hours, depending on the types and amounts of hazardous materials in use on the operation.

References

- SDSs and the manufacturer's instructions and handling precautions.

FMM16 Pressure systems in the workplace

Date this sheet issued: 22 December 2014

Audience

Field management (e.g. party managers, vessel masters and department heads).

Objectives

- To provide the target audience with the ability to:
 - Know the hazards associated with such systems.
 - Understand the need for appropriate maintenance.
 - Know the immediate action to be taken in the event of typical pressure system failures.

Knowledge

- Of the risks posed by pressure systems.
- Of how to design and apply safe working practices for such systems.
- Of how to identify hazards existing in such systems and the procedures for handling hazards.
- Of inspection maintenance and testing requirements on pressure systems.
- Of the types of injury such systems may cause.
- Of the immediate actions for any system failures.
- Of the process for safe re-commissioning of systems.
- Of the location and function of pressure relief valves and how to safely dissipate a vessel under pressure.

Understanding

- Of the principle physical characteristics of gases and liquids under pressure and design procedures and guards to mitigate the effects of failure.
- Of local applicable statutes pertaining to pressure systems.
- Of industrial piping and hose management (application, rating, connection, securing, inspection/replacement schedule, etc.).

Skill

- Ability to design the procedures for high pressure systems and institute safe working practices for all personnel working with them.

Example minimum duration

3 hours.

References

- Module OSM17 (High pressure)
- Applicable statutes pertaining to this topic (e.g. in the UK – Safety of pressure systems: Pressure Systems Safety Regulations 2000).
- IOGP Report No. 459, *OGP Life-Saving Rules*, April 2013, Version 2.
- IMO – *International Convention for the Safety of Life at Sea (SOLAS)*, 1974 and later amendments.
- INDG261 (rev2) – *Pressure systems – A brief guide to safety*, UK HSE, November 2012.
- MSN 1751 – *Harmonised System of Survey and Certification (HSSC)*, Maritime and Coastguard Agency, UK Department of Transport., June 2000.

FMM17 Operating in & around hazardous facilities and activities (SIMOPS)

Date this sheet issued: 22 December 2014

Audience

Field management (e.g. party managers, vessel masters and department heads including Chief Officers and SIMOPS coordinators).

Objectives

- Ensure there is an effective management interface between all simultaneous operations stakeholders and line management to mitigate any potential impact, effect or consequence as a result of simultaneous operations (SIMOPS).

Knowledge

- Of how to identify all hazards present and risk arising from the simultaneous operations.
- Of all parties operating in the area designated as SIMOPS controlled.
- Of all normal and contingency plans and emergency alarms and the appropriate response to those alarms and hazardous situations and conditions.
- Of all evacuation routes and the location of any approved shelter and safe havens.
- Of the responsibilities in documented or informal HSE work practices, such as personal protective equipment, permit to work, hazardous energy isolation, and local emergency response plans.

Understanding

- Of what specific rules, practices or procedures apply and how, when, and why those conditions must be executed.
- Of all conditions and circumstances for all parties working and operating within the designated SIMOPS location.
- Of the procedural/statutory controls and restrictions applicable, including bridging documents and communication requirements.

Skill

- Ability to safely integrate their operation with other operations.
- Ability to recognize the hazards introduced by SIMOPS and to successfully control them through effective risk management principles and mitigations.

Example minimum duration

2 hours.

References

- IMCA M 203 – *Guidance on Simultaneous Operations (SIMOPS)*, March 2010.
- *Step Change in Safety – Health and Safety Management Systems Interfacing Guidance*, Re-issue 2003.

FMM18 Spill response

Date this sheet issued: 22 December 2014

Audience

Field management (e.g. party managers, vessel masters and department heads) and all members of a team required to respond to spills

Objectives

- To ensure the target audience can mitigate short term and long term damage to personnel, the environment and equipment by the correct application of spill response techniques.

Knowledge

- Of need to have the Safety Data Sheets (SDS) for products in use in the operation, centrally located and at the point of use.
- Of the associated hazards to health.
- Of the common products in an operation that can cause harm to the environment, to be able to recognize other potentially damaging products.
- Of the various methods of handling spills of different types of material in a way which mitigates or eliminates damage.
- Of need to have the correct PPE available for the various products in use.

Understanding

- Of the effects of untreated spills, both politically and environmentally, and the need to take action.
- Of the contaminating effects of different spilt substances on soil, water and air.
- Of the vessel's SMPEP (Shipboard Marine Pollution Emergency Plan) and the MARPOL requirements.

Skill

- At organizing all personnel in prevention of spills and reaction to spills.
- Ability to have the correct materials and PPE in the right place to handle spills quickly and effectively.
- At preparing teams for reaction to pre-recognized situations.
- At planning means of disposal of contaminated materials.

Example minimum duration

3 hours.

References

- IMO IB586E – *Guidelines for the development of Shipboard Marine Pollution Emergency Plans*, 2010 Edition. ISBN 978-92-801-1518-5.

FMM19 Ergonomics

Date this sheet issued: 22 December 2014

Audience

Party managers, vessel masters, department heads and HSE advisors.

Objectives

- To ensure the target audience understands:
 - The importance of ergonomics in the workplace.
 - The company's ergonomics program or recommended practices for field operations.
 - The individual's role in the implementation of the ergonomics program.

Knowledge

- Of the concepts of ergonomics in the workplace (i.e., equipment/tool design and use, body position, workstation setup, etc.).
- Of factors that may affect the safe design and use of equipment and devices in the workplace.
- Of recommended ergonomic setup and use of workstations, appropriate tools, layout of office and camps, etc.

Understanding

- Of the possible consequences of poorly designed equipment, workstation setup and at-risk ergonomic behaviours.
- Of cumulative stress disorders and how to reduce people's exposure to the risk.
- Of how to recognize safe and at-risk ergonomic behaviours.
- Of the importance of auditing, correcting and maintaining an ergonomically designed work setting.

Skill

- Ability to recognize safe and at-risk ergonomic behaviours and provide advice/coaching to personnel.
- Ability to recognize related ergonomic problems associated with tools, equipment, workstation setup, offices and camps and offer solutions.

Example minimum duration

3 hours.

References

- Module MAM9 (Ergonomics implementation)
- IOGP Report No. 441, *Establishing an ergonomics programme for computer usage in an office environment*, July 2010.

FMM20 Managing subcontractor interfaces

Date this sheet issued: 22 December 2014

Audience

Field management (e.g. party managers, vessel masters and department heads).

Objectives

- To provide the target audience with the ability to effectively manage and supervise subcontractors involved in the operation.

Knowledge

- Of the contractor's management system and its application to the management of subcontractors.
- Of local and international legal requirements and industry best practice e.g. IAGC and IOGP guidelines.
- Of the interface documentation between the contractor company and subcontractor.
- Of the categories of people who can potentially be present at a geophysical worksite.

Understanding

- Of the contract terms and conditions between all parties contract specifications.
- Of the risks involved with tasks performed by subcontractors.
- Of IOGP Report No. 432 and 423 and how they define a process for managing subcontractors.

Skill

- Ability to coordinate all operations successfully.
- At auditing of subcontractor systems and performance.
- At maintaining performance records.
- At encouraging cooperative performance to achieve one team.
- At supervising subcontractor company performance, to the extent possible, even when they work at the periphery of the operation sometimes.

Example minimum duration

6 hours.

References

- Module MM5 (Subcontractor management)
- IOGP Report No. 423, *HSE management – guidelines for working together in a contract environment*, June 2010.
- IOGP Report No. 432, *Managing HSE in a geophysical contract*, December 2009.
- IOGP Report No. 432-01, Guidance note on subcontractor management in geophysical operations, October 2012.
- ENFORM – Supervisor Competency Guideline, October 2010.

FMM21 Electrical safety

Date this sheet issued: 22 December 2014

Audience

Field management (e.g. party managers, vessel masters and department heads) and appropriate personnel such as camp managers, camp mechanics, electricians.

Objectives

- To provide the target audience with the ability to identify and manage electrical safety in their operation.
- To avoid electrocution, fire, explosion or uncontrolled operation of electrical equipment.

Knowledge

- Of the different hazards associated with electricity in the workplace and accommodation areas.
- Of the statutory and company requirements for the safe installation, maintenance, site inspection and operation of electrical and distribution systems.
- Of the electrical hazards that may be encountered by non-electrical workers.
- Of the safety devices, PPE requirements, first aid measures and company procedural controls such as lockout/tagout.

Understanding

- Of the importance of proper installation techniques, including earth bonding/fault systems.
- Of the types and application of different over-voltage/current protection.
- Of the correct selection of cable type, switch gear.
- Of typical power generation/distribution systems.
- Of how electrical current adversely affects the human body.
- Of minimum clearance distance to power lines (in accordance with corresponding voltage).

Skill

- At identifying the different types of electrical installations and their associated hazards.
- At implementing safe working procedures and practices for electrical and non-electrical qualified workers.

- At planning maintenance programs.
- At the actions to be taken should an emergency occur involving electricity.

Example minimum duration

3 hours. In some jurisdictions statutory requirements may only allow personnel with formal qualifications or certifications to be able to work on electrical systems.

References

- IOGP Report No. 459, *OGP Life-Saving Rules*, April 2013, Version 2.

FMM22 Social responsibility (new)

Date this sheet issued: 22 December 2014

Audience

Field management (e.g. party managers, vessel masters and department heads).

Objectives

- To ensure the target audience understands their company and client's policy regarding the perceived areas of social endeavor that their business activities may influence and the potential that their company has to influence and contribute to development by way of improvement.

Knowledge

- Of the company management system and its application to individual contracts.
- Of contract requirements and specifications.
- Of local facilities and legal requirements.
- Of the local client interface and allocation of responsibilities.
- Of potential impact of company, client, business, political, commercial, social; health and environmental.
- Of how to mitigate adverse effects and enhance positive effects.
- Of the client's ESIA and contents.

Understanding

- Of how to effectively manage contractual requirements with deference to local culture.
- Of previous or existing social development programs and the possible problems of working in the local environment.
- Of when there is a need for stakeholder engagement and a community liaison officer.
- Of the impact a problem may have on the client's license to operate.

Skill

- At managing contractor employees under his/her control.
- At recognizing genuine opportunity to positively influence local conditions with long term benefit.
- At recognizing where short term gratification may not be positive in the long term and may indeed be damaging and not represent true development.

Example minimum duration

6 hours.

References

- IOGP Report No. 380, *A guide to health impact assessment in the oil and gas industry*, April 2005.
- IOGP Report No. 38, *Environmental-social-health risk and impact management process*, December 2008.
- IOGP Report No. 385, *Oil & gas: the bridge to a sustainable future*, December 2006.
- IOGP Report No. 334, *Combatting corruption: OGP progress report*, December 2002.
- IOGP Report No. 332, *Key questions in managing social issues in oil & gas projects*, October 2002.
- IPIECA, *Local content strategy*, October 2011.
- IPIECA, *A guide to social impact assessment*, March 2004.
- IPIECA, *Guide to successful, sustainable social investment*, February 2008.
- IPIECA, *Indigenous Peoples and the oil and gas industry*, March 2012.
- Voluntary Principles on Security and Human Rights, January 2012.
- IOGP/IPIECA, *The oil & gas industry: from Rio to Johannesburg and beyond – Contributing to sustainable development*, 2002.

FMM23 Marine administration (new)

Date this sheet issued: 22 December 2014

Audience

Marine administrator, vessel master, party manager.

Objectives

To ensure that the target audience understands the activities and tasks associated with this position. Marine Administration represents the shore-based interface – information, logistics and material conduit – between local shipping agents, the party manager and the vessel master.

Knowledge

- Of international shipping regulations.
- Of maritime law pertaining to the vessels.
- Of vessel certification requirements.
- Of Flag state regulations of vessels.
- Of vessel requirements and capacities (fuel, food, personnel).
- Of insurances.
- Of personnel movements (air, land and sea).
- Of local emergency response.
- Of local waste management facilities and regulations.

Understanding

- Of airline services.
- Of entry and exit visas and work permits.
- Of import and export regulations.
- Of the availability of local resources.
- Of local maritime requirements and rules, port authority requirements, anchorage, pilot, tugs, berthing, stevedores, customs, immigration, etc.
- Of local taxes.
- Of invoicing and bill payment.
- Of local government agencies and their requirements.
- Of environmental requirements and restrictions.

Skill

- Effective communication, internal and external, *inter* and *intra* organization.
- Effective organization skills.
- Social perceptiveness.
- Time management.
- Planning and thinking creatively.
- Logistical planning for Port calls.
- Consultation and interpersonal skills, conflict resolution, negotiation, working with teams.
- Effective decision making.
- Keeping accurate records, computer skills.

Example minimum duration

6 hours.

FMM24 Field risk management (new)

Date this sheet issued: 22 December 2014

Audience

Field management who are responsible for personnel and sites: Party managers, vessel masters and department heads. Field support personnel

Pre-requisites: Management systems module MM1B.

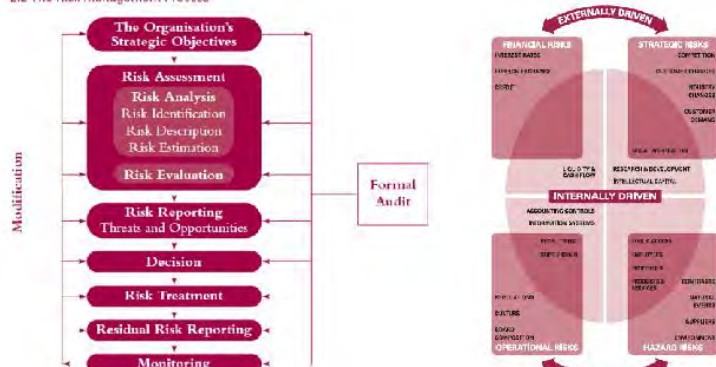
Objectives

- To ensure the target audience can identify all components of a company's risk management process and how it interacts within its management system.
- To ensure the target audience can identify the need for a risk assessment to be performed, how to conduct the main hazard/risk processes e.g. a Job Safety Analysis (JSA) or risk assessment and provide a credible risk analysis with which to manage the job/activity/operations/task to ALARP (As Low As Reasonably Practicable).

Knowledge

- Of what a hazard and a risk are and how they are commonly defined.
- Of how to complete the company risk assessment proforma, hazard identification (HAZID) proforma, management of change (MOC) form and JSA form.
- Of the industry fatality database called the IAGC Aide Memoir for Geophysical Risk Assessors.
- Of the hazards and risks at the location or site under their area of responsibility.
- Of the ISO 31000 Risk management process.

2.2 The Risk Management Process



Understanding

- Of all elements of the risk management process of the particular company.
- Of the main components of risk management.
- Of the various hazard and risk related processes and how they differ and where and how they are used (Unsafe act/condition observation audits, JSA, MoC, HAZID, etc.).
- Of the implications of reducing risk to as low as reasonably practicable (ALARP) when managing operations.
- Of the key generic risk drivers in their sphere of operations.
- Of how to determine and implement effective controls and also assess their adequacy.

Skill

- Ability to lead hazard identification and risk assessment meetings.
- At identifying the need for a risk assessment and who should participate.
- At identifying the conditions/circumstances/forms that risk presents itself in.
- Ability to demonstrate the principle of reducing risks to as low as reasonably practicable by evaluation of options or alternatives.
- Ability to write documents for safe working procedures.
- Ability to produce clear documented risk assessments.
- Ability to write effective corrective actions that will prevent re-occurrence
- Ability to communicate the hazards to the work force and others involved.

Example minimum duration

4 hours.

References

- IOGP Report No. 510, *Operating Management System Framework for controlling risk and delivering high performance in the oil and gas industry*, June 2014
- IOGP Report No. 511, *OMS in practice. A supplement to Report No. 510 Operating Management System Framework*, June 2014
- IOGP Report No. 217, *Generic Hazard Register for Geophysical Operations*, December 1994.
- Company hazard register.
- IOGP Report No. 423, *HSE management – guidelines for working together in a contract environment*, June 2010.
- IOGP Report No. 432, *Managing HSE in a geophysical contract*, December 2009.
- IAGC Aide Memoir for Geophysical Risk Assessors. <http://www.iagc.org/AideMemoir/> .
- ISO 31000:2009, *Risk management – Principles and guidelines*, 1st Edition, November 2009.
- Modules MAM8 (Risk management), FMM20 (Managing contractor & subcontractor interfaces) and FMM6 (Job safety analysis).
- Wikipedia – ALARP – For a risk to be ALARP it must be possible to demonstrate that the cost involved in reducing the risk further would be grossly disproportionate to the benefit gained.

FMM25 Social media usage awareness (new)

Date this sheet issued: 22 December 2014

Audience

Party managers, vessel masters, department heads.

Objectives

- To ensure the target audience understands the company policy on use of social media in the workplace and can effectively communicate this to their personnel.

Knowledge

- Of the types of social media and how they are used.
- Of company's policy of acceptable and prohibited usage of social media in the workplace.
- Of best practices for social media use.
- Of potential negative consequences of social media use.

Understanding

- Of the types of information that are acceptable to post on social media and those that are prohibited in the work environment.
- Of how uncontrolled use of social media following an incident can negatively impact communications with the media and public.

Skill

- Ability to communicate and enforce social media usage in the work environment to employees.

Example minimum duration

2 hours.

References

- Modules MAM7 (Crisis management), AM32 (Impact of social media) and MAM6 (Media handling/public relations).

FMM26 Handling the media and public relations (new)

Date this sheet issued: 22 December 2014

Audience

Party managers, vessel masters, department heads.

Note: The details and duration of this module may vary depending on internal company policies on the extent that field level personnel are expected to handle media and public relations. This module is structured as if field level management would have a significant role in communicating with the media and public, thus the module is very similar to MAM6.

Objectives

- To ensure that the target audience:
 - Understands their company's policy/process for handling media and public relations and how client company requirements may modify those policies/processes.
 - Is provided with the skills and understanding of how to respond in an emergency as well as general situations.
 - Can effectively work with the media and public in an emergency situation.

Knowledge

- Of when, how and who to contact within company or client company to handle media and public relations
- Of best practices in dealing with media and general public.
- Of how the media gather information and how they may use it.

Understanding

- Of company and client company policies/processes for handling media and public relations.
- Of the preferred method to handle the media or public.
- Of what information can and cannot be released.
- Of the implications of public statements – human, legal, financial and reputation.
- Of how to address and effectively communicate a message to the media or public.
- Of how social media (i.e., Facebook, Instagram, Twitter, etc.) may impact the control of information to the media and public.

Skill

- At effective communications and presentations.
- Ability to develop and present written or verbal reports which are factual, concise and clear.
- Ability to control interviews and public debate.

Example minimum duration

6 hours.

References

- Modules MAM7 (Crisis management), AM32 (Impact of social media) and FMM25 (Social media usage awareness).

FMM27 Crisis management – 1st line Tactical response (new)

Date this sheet issued: 22 December 2014

Audience

Field management – party manager, vessel master, department heads, office managers (typically this is the audience but may be different depending on the nature of the range of potential crises).

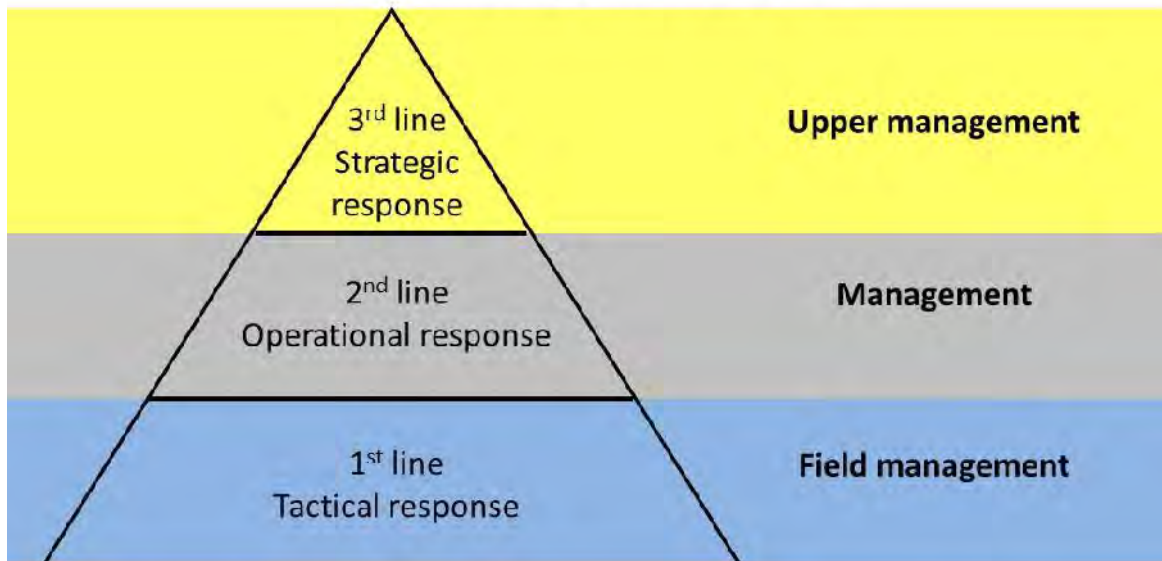
Objectives

- To ensure that the target audience understands the company's system for crisis management, and can effectively function in a variety of roles, with responsibilities, on an Tactical crisis management team. (All offices, vessels and crews should have in place an Emergency Response Plan (ERP) to deal with all emergency situations that may arise as a direct result of the operation. For marine operations this is required by flag state and certification bodies – ISM and ISPS).

Knowledge

- Of the site's emergency response plan and procedures.
- Of the company's crisis management system, including established emergency response teams.
- Of the company's risk assessment procedure to identify potential crisis and security risk.
- Of the client requirements or maritime regulations with respect to established crisis and emergency response procedures and processes.
- Of managing a crisis which has not been identified (*'always expect the unexpected'*).
- Of the importance of minimizing damage at the site (vessel/office/camp) with a focus on people, environment and assets.
- Of evacuation routes and methods from the scene of the incident (vessel/office/camp).

Crisis management levels



Understanding

- Of the importance of regular drills and exercises of the company's crisis management system.
- Of the importance of timely notification to the relevant rescue services, authorities and company and client personnel.
- Of the responsibilities of a 1st line Tactical response team leader including:
 - Assessing the incident and deciding whether an initial emergency response team is required.
 - Deciding which team members are required for a particular emergency and muster accordingly.

Skill

- At leadership and communication in the event of a crisis situation.
- At combating the situation at the scene of the incident.
- At successfully minimizing damage at the work site in the event of an incident, having assessed the potential severity (worst case situation) and following the company crisis management procedure during drills.
- At notifying and communicating with the rescue services, authorities and the company from the scene of the incident.
- At implementing the local emergency response training plan that meets upper management approval and regulatory requirements when applicable (such as ISM and ISPS) and achieves crisis management response competence for all level

response team members.

Example minimum duration

8 hours for basic training (not including regular drills and exercises according to company approved ERP training plan, and any maritime regulatory or flag state training requirements). This period will vary widely by the nature and region of operations.

References

- IOGP Report No. 308, *Response to demonstrations at company premises*, March 2010.
- IOGP Report No. 309, *Response to demonstrations at offshore facilities*, March 2010.
- IOGP Report No. 400, *Guidelines for oil and gas companies sending employees into hazardous locations*, 2007.
- IOGP Report No. 472, *Country evacuation planning guidelines*, September 2012, Version 1.1.
- Modules MM3 (Emergency response planning and communication), FMM25 (Social media issues awareness), FMM26 (Handling the media and public relations), FMM7 (Fire prevention and control), FMM18 (Spill response), FMM20 (Managing subcontractor interfaces), FMM24 (Field risk management), MM7 (Crisis management – 3rd line Strategic response) and MAM7 (Crisis management – 2nd line Operational response).

FMM28 Security (new)

Date this sheet issued: 22 December 2014

Audience

Field management (e.g. party managers, vessel masters and department heads).

Objectives

- To ensure that the audience is able to effectively implement and manage the security plans for their areas of responsibility, with the assistance for security professionals.

Knowledge

- Of the company's security policy and procedures and Project Security Plan.
- Of the ISPS code requirements (for personnel working in marine operations).
- Of the security risks and Threat Levels in the area of operation.
- Of the local, internal company and client security resources available.

Understanding

- Of the importance of successfully managing social issues and community relations in an area so that they don't result in security issues.
- Of the range of possible consequences from security incidents.
- Of the types of barriers and controls available for security risks.

Skill

- At maintaining key relationships with the appropriate security professionals in the company and locally.
- Ability to conduct a security related risk assessment for the country or location in question.
- At effectively implementing a Project Security Plan or evacuation plan.
- At recognizing when a threat level or situation is changing.
- At ensuring security issues are monitored in the project location.
- At ensuring access control to facilities or vessels is operating effectively along with journey management.

Example minimum duration for training:

8 hours.

References

- IAGC – *Security and Explosive Remnants of War (ERW) Guidelines for the Seismic Industry*, 2014.
- Module FMM22 (Social responsibility), MM8 (Security planning) and FMM27 (Crisis management – 1st line Tactical response).
- IOGP Report No. 332, *Key questions in managing social issues in oil & gas projects*, October 2002.
- IOGP Report No. 472, *Country evacuation planning guidelines*, September 2012, Version 1.1.
- IPIECA, *Local content strategy*, October 2011.
- IPIECA, *A guide to social impact assessment*, March 2004.
- IPIECA, *Guide to successful, sustainable social investment*, February 2008.
- IPIECA, *Indigenous Peoples and the oil and gas industry*, 2nd Edition, March 2012.
- IPIECA, *Voluntary Principles on Security and Human Rights*, January 2012.
- STCW Proficiency in Security Awareness course.
- STCW Ships Security Officer (SSO) course.

Operator skill modules

OSM1 Defensive driving

Date this sheet issued: 22 December 2014

Audience

All drivers.

Pre-requisites: A valid driver's license for the specific type of vehicle

Objectives

- To ensure the audience understands the behaviours and attitudes associated with driving defensively.
- Audience is able to demonstrate those behaviours and attitudes while operating a vehicle in an operational setting.

Knowledge

- Of the company driver procedures, standards and reporting system.
- Of local laws and regulations.
- Of vehicle traffic laws and company policy for the area of operation.
- Basic vehicle operation techniques.
- Basic vehicle inspection techniques.
- The company's journey management system.
- Of the particular hazards for the project/setting/area of the project.

Understanding

- Need to report vehicle defects promptly.
- The level of risk present in each operational setting.
- The implications of speed and driving conditions.
- Of the particular characteristics of the vehicle to be operated.

Skill

- Ability to apply knowledge of traffic laws and company policy while operating vehicle.
- Vehicle handling skills for the type of vehicle being operated.
- Ability to respond to operating environment and apply appropriate defensive operating behaviours.

Example minimum duration

At least 6 hours (3 hours classwork plus 3 hours practical assessment). The practical evaluation should include a commentary drive. Training should be dependent on a risk assessment, personnel and cultural factors.

References

- IOGP Report No. 365, *Land transportation safety recommended practice*, April 2005
- IOGP Report No. 365 – Guidance note 8, *Driver trainer recommended approach and profile*, 2011.
- IOGP Report No. 459, *OGP Life-Saving Rules*, April 2013, Version 2.

OSM2 **Off-road driving**

Date this sheet issued: 22 December 2014

Audience

All off-road drivers of vehicles and equipment.

Pre-requisites: A valid driver's license for the specific type of vehicle and completion of module OSM1 (Defensive driving)

Objectives

- To ensure audience understands and is able to demonstrate proper off-road operating techniques applicable to the region of operation.

Knowledge

- Of off-road operating techniques for class and vehicle being operated.
- Of techniques to assess the operating environment for risk.
- Of basic vehicle inspection techniques.
- Of the company's journey management system.
- Of the vehicle and equipment being driven.
- Of the proper recovery techniques for the terrain
- Of the proper recovery equipment that the vehicle should have, for the type of terrain.

Understanding

- Of the hazards and associated risks present in each operational setting.
- Of the appropriate driving techniques for a given environment.
- Of the need to report vehicle defects promptly.
- Of the correct use of tools for recovery.

Skill

- Basic and off-road vehicle handling skills for the type of vehicle being operated.
- Ability to respond to operating environment and apply appropriate off-road techniques.

Example minimum duration

3 hours classwork plus 3 hours practical assessment. The practical evaluation should include a commentary drive. A minimum proficiency should be demonstrated. Training should be dependent on a risk assessment.

References

- Module OSM1 (Defensive driving)
- IOGP Report No. 365 – *Land transportation safety recommended practice*, April 2005.
- IOGP Report No. 365 – Guidance note 7, *Variations for off-road operations*, 2011.
- IOGP Report No. 365 – Guidance note 8, *Driver trainer recommended approach and profile*, 2011.
- IOGP Report No. 459, *OGP Life-Saving Rules*, April 2013, Version 2.

OSM3 Specialized vehicle driver

Date this sheet issued: 22 December 2014

Audience

Drivers of specialized vehicles such as Vibrator trucks, Buggies, All Terrain Vehicles, Bulldozers etc.

Pre-requisites: The target audience must have proven competence as an off-road driver. Modules OSM1 (Defensive driving) and OSM2 (Off-road driving). A valid driver's license for the specific type and class of vehicle, gained through training and examination and issued by a recognized and acceptable authority.

Objectives

- To ensure audience understands and is able to demonstrate proper vehicle operating techniques for the environments applicable to the region of the survey.

Knowledge

- Of the operational hazards associated with each type of specialized vehicle.
- Of specialized vehicle operating techniques and limitations for type being operated.
- Of techniques to assess the operating environment for risk.
- Of basic inspection techniques.

Understanding

- Of the level of risk present in each operational setting.
- Of the appropriate operating techniques for a given environment.
- Of the need to report vehicle defects promptly.

Skill

- At handling skills for the type of vehicle being operated and the operating environment.
- At conducting basic maintenance.
- Ability to safely drive over variable terrain.

Example minimum duration

3 hours classwork plus 3 hours practical assessment.

References

- Modules OSM1 (Defensive driving) and OSM2 (Off-road driving)
- IOGP Report No. 365, *Land transportation safety recommended practice*, April 2005.
- IOGP Report No. 365 – Guidance note 7, *Variations for off-road operations*, 2011.
- IOGP Report No. 365 – Guidance note 8, *Driver trainer recommended approach and profile*, 2011.

OSM4 Forklift truck driver

Date this sheet issued: 22 December 2014

Audience

Supervisors and forklift truck and powered industrial vehicle drivers.

Pre-requisites: Drivers will need a valid driver's license for the specific type of vehicle where required by law. Module OSM1 (Defensive driving).

Objectives

- Provide forklift truck drivers with the necessary understanding of the hazards, acceptable operating practices and safeguards associated with forklift operation.

Knowledge

- Of proper forklift inspection.
- Of forklift controls and functions, including steering and maneuverability and stability principles.
- Of safe load handling techniques for picking up loads, travelling with loads, stacking and dropping loads and loading/unloading.
- Of forklift capacity and how to determine load weight.
- Forklift classification.

Understanding

- Of common forklift accidents and how they occur.
- Of load center and center of gravity.
- Of restrictions associated with various forklift types.
- Of site inspection and risk assessment techniques.
- Of when equipment is ready for re-certification.
- Of where the swing radius of the equipment will be prior to performing turning maneuvers.

Skill

- At inspection.
- At loading/unloading.
- At travel at appropriate speeds for the existing conditions and below posted limits.
- At proficient handling of the forklift.

Example minimum duration

3 hours classwork plus 3 hours practical assessment. Training syllabus must comprise a major element of practical instruction/examination in addition to a written examination. Personnel should be re-certified at intervals not greater than every five years.

References

- Module OSM1 (Defensive driving)
- IOGP Report No. 376, *Lifting & hoisting safety recommended practice*, April 2006.
- Local regulations (e.g. LOLER, 1998; UK)

OSM5 Highway traffic control

Date this sheet issued: 22 December 2014

Audience

Road traffic controllers.

Pre-requisites: None.

Objectives

- Provide road traffic controllers with an understanding and appreciation of the hazards, safeguards, and legal or local requirements, associated with the traffic activity.

Knowledge

- Of the hazards of the operation.
- Of personal protective equipment required.
- Of appropriate use of barricade and warning signs and devices.
- Of road traffic laws in the place of operation.
- Of specific procedures with the operation.

Understanding

- Of when to use PPE, barricades and warning devices.
- Of the implications of all identified hazards.
- Of the effect of speed, and drivers' reaction time.
- Of the responsibility to follow procedures.

Skill

- At integrating the operation into local traffic control systems – liaison with police.
- At placement of barricade and warning devices for optimum effectiveness.
- At coordination with road traffic control personnel.
- At use of radios and other signaling devices.

Example minimum duration

3 hours.

References

- Local traffic regulations – e.g. trainee drivers' handbook available from the licensing authority in many countries.
- IOGP Report No. 365, *Land transportation safety recommended practice*, April 2005.

OSM6 Vehicle recovery

Date this sheet issued: 22 December 2014

Audience

Party managers, department heads, mechanics.

Pre-requisites: None.

Objectives

- To enable those who will be actively involved in the recovery of any type of vehicle which has suffered an accident, broken down or become stranded, to make a successful, safe and efficient recovery.

Knowledge

- Of the theory of pulleys and mechanical advantage.
- Of weights of vehicles and the safe use of recovery devices (recovery trucks, winches, pulleys, wire ropes).
- Of pneumatic recovery devices, airbags etc.
- Of recovery techniques in different terrains/environments (steep inclines, flooded areas, snow/ice, sabkha etc.).

Understanding

- Of the danger involved in recovering damaged, overturned, bogged or trapped vehicles.
- Of the potential for fire from fuel and electrical systems.
- Of the hazards of spilt battery acid.
- Of the hazards of various loads that may be onboard.
- Of the potential for environmental damage.

Skill

- In assessing the best methods to lift, move, recover the vehicle.
- At using winches, pulley systems, cranes, A-frames, ropes, etc.

Example minimum duration

3 hours classwork plus 3 hours practical assessment.

References

- Module OSM18B (Mechanical assistance)

OSM7 Small boats – rivers and near shore

Date this sheet issued: 22 December 2014

Audience

Boat operators (coxswain) assigned to small boat operations.

Pre-requisites: Some hands-on experience with small boat operations.

Objectives

- To ensure that the targeted audience:
 - Understands the safe operating principles and handling of small boats.
 - Is able to recognize associated environmental hazards with such operations.
 - Has the ability to recognize and use proper PPE.
 - Have a basic understanding of the mechanical operation of the small boat.
 - Understands regulations applicable to small boat operations and handling.
 - Is capable of performing an in-water rescue.
 - Understands mooring techniques and the operational capabilities of the small boat being used.

Knowledge

- Of the company's safe operating procedures.
- Of hazards present in river and near shore environments.
- Of required safety equipment (personal locator beacon, radios, flares, PPE, life jackets, etc.) and proper usage.
- Of the mechanical operation of boat, and in field repair.
- Of environmental factors such as tides, currents and winds and how these effect safe operations.
- Of regulations specific to small boat operations.
- Of strategies and procedures for in-water rescue.
- Of company's journey management systems.
- Of radio signals and other communication techniques.

Understanding

- Of how environmental factors affect boat operations and handling.
- Of the limitation of equipment during transport and work.
- Of proper use of onboard safety equipment and PPE.
- Of onboard mechanical systems (basic).
- Of formulation of in-water rescue plans.

Skill

- Ability to safely operate boat under various environmental conditions and work operations.
- In proper use of onboard safety equipment and PPE.
- At carrying out basic mechanical repairs of small boats.
- At effective in-water rescue.
- In use of communications systems, and communicating with third parties.

Example minimum duration

3 hours classwork plus 9 hours practical assessment.

References

- IOGP Report No. 355, *Watercraft & water in geophysical operations: A guideline to operations & management*, July 2004.
- IOGP Report No. 459, *OGP Life-Saving Rules*, April 2013, Version 2.

OSM8 Small boats – marine operations

Date this sheet issued: 22 December 2014

Audience

Boat operators (coxswains) assigned to small boat operations.

Pre-requisites: Formal training and certification and general competence as coxswain to relevant craft such as RYA (Royal Yacht Association in UK) Power Boat Coxswain or specific Fast Rescue Craft (FRC) or Workboat coxswain qualification. Offshore safety and survival training.

Objectives

- To ensure that the target audience understands the safe operating principles during a small boat mission either for routine operations or rescue.
- To ensure that the target audience will stop any task where the risk is not controlled.
- The audience shall be competent in all expected tasks and shall maintain their competence through regular assessment or training.

Knowledge

- Of the proper use of PPE and safety systems, and emergency procedures.
- Of the hazards and risks involved in the operation of a small boat and the effect these can have on the crew, craft and work carried out.
- Of the construction of the hull and auxiliary systems and how to operate safely.
- Of the use of planned maintenance systems.
- Of how different situations affect stability and buoyancy.
- Of the different steps in mission planning and seismic.
- Of general operating procedures for the company and in the industry.

Understanding

- Of how the integrity of a small boat is affected by external forces and flooding.
- Of the effect environmental conditions can have on the small boat crew.
- Of how potential hazards and risks affect the mission, seismic, and general operations (especially those associated with working with in-sea equipment).
- Of the function and limitations of the machinery and auxiliary systems.

Skill

- Adept in seamanship, and rescue and survival at sea.
- At managing potential hazards and risks experienced in routine seismic and general operations, and during critical situations.
- Adept in the operation and maneuvering of a small boat.
- Ability to maintain the hull and perform emergency repairs, and carry out maintenance and fault finding on the machinery and auxiliary systems.
- Ability to use navigational aids and radios.

Example minimum duration

8 hours classwork plus 20 hours practical assessment (boat type and activity specific).

Suggested nature of training: To be provided by person(s) with personal qualifications, experience and expertise of the subject. Training record to be endorsed with the type of operations and craft.

References

- Module OSM 37 (Working on in-sea equipment)
- IAGC Guidelines for Marine Small Boat Training and Competency, September 2013. **(This is the prime reference for this module and contains much more specific training and competency detail for all roles involved in small boat usage).**
- IMO, International Convention on Standards of Training, Certification and Watchkeeping (STCW) for Seafarers, ISBN: 978-92-801-1528-4, 2011.
 - STCW A-VI/2-1 (Proficiency in Survival Craft and Rescue Boats)
 - STCW A-VI/2-2 (Proficiency in Fast Rescue Craft).

OSM9

Airboats

Date this sheet issued: 22 December 2014

Audience

Boat operators (coxswain).

Pre-requisites: Some hands-on experience with airboat operations.

Objectives

- To ensure that the target audience understands the safe operating principles and handling of airboats; is able to recognize associated environmental hazards with such operations; ability to recognize and use proper PPE; has understanding of the mechanical operation of the airboat; understands regulations of airboat operations and handling; and, is capable of performing an in-water rescue.

Knowledge

- Of the company's safe operating procedures.
- Of the hazards present in environments where airboats operate.
- Of required safety equipment and PPE and proper usage.
- Of mechanical operation of airboats.
- Of environmental factors such as tides, currents and winds and how these effect safe operations.
- Of regulations specific to airboat operations.
- Of strategies and procedures for in-water rescue.

Understanding

- Of how environmental factors affect airboat operations and handling.
- Of limitations of the equipment.
- Of proper use of onboard safety equipment and PPE.
- Of onboard mechanical systems (basic).

Skill

- At safely operating an airboat under various environmental conditions such as weather.
- At proper use of onboard safety equipment and PPE.
- At carrying out basic mechanical repairs to an airboat.

- At planning and carrying out an effective in-water rescue.

Example minimum duration

3 hours classwork plus 9 hours practical assessment. In some areas a captain's license is required.

References

- IOGP Report No. 355, *Watercraft & water in geophysical operations: A guideline to operations and management*, June 2004.
- IOGP Report No. 459, *OGP Life-Saving Rules*, April 2013, Version 2.

OSM10A Helicopter landing officer (HLO) – Land

Date this sheet issued: 22 December 2014

Audience

Designated HLOs at onshore facilities.

Pre-requisites: At least six months prior experience in onshore helicopter landing operations.

Objectives

- To ensure target audience understand the responsibilities and requirements of the Helicopter Landing Officer with regard to safe and efficient aircraft/passenger handling including emergency response procedures.
- To ensure that HLOs are competent to carry out their routine aircraft handling responsibilities and are competent to carry out their duties in the event of helicopter emergencies.
- To ensure that HLOs are able to properly manage passengers and cargo loading activities on and around helicopter landing sites.

Knowledge

- Of regulations and guidelines that describe/define HLOs responsibilities (including any CAA requirements) and industry recognized documents both local and national as required.
- Of all hazards associated with helicopter operations including weather.
- Of fire fighting techniques and the use of safety equipment including portable fire fighting equipment, fixed fire fighting equipment (where applicable) and practical search and rescue techniques.
- Of the Operations manual of the aircraft operators in regards to passenger handling.
- Of how to contribute to the weight and balance calculation for the mission.
- Of helipad layout and design requirements.

Understanding

- Of flights operations and the ability to oversee landing and takeoff activities onshore.
- Of all aspects of helipad operations with regard to the utilization of helipad attendants to ensure safe and efficient movement of passengers to and from aircraft.
- Of all helipad related equipment as regards to usage and location.
- Of actions to be taken in the event of a helicopter related incident/accident such as high and low impact on and off helipad.

- Of the weight and balance of the aircraft for the mission.
- Of basic meteorology, as applicable to the landing and takeoff of aircraft.

Skill

- At maintaining good working relationship with person in overall charge of helipad landing site.
- At organizing helipad crew to carry out their duties in a safe and efficient manner (in accordance with minimum required industry standards).
- At supervising all aspects of helicopter operations including emergency response procedures as and when required.
- At handling proper embarkation and disembarkation of personnel from the aircraft and explaining such to passengers.

Example minimum duration

8 hours up to 3 days for vessel position, depending on the authorizing entity but in compliance with any applicable international regulations (OPITO).

References

- IOGP Report No. 390, *Aircraft management guidelines*, July 2008 updated August 2013, Issue 5.
- IOGP Report No. 410, *Air transportation – Recommended practices for contracted air operations*, June 2008.
- IOGP Report No. 420, *Helicopter guidelines for land seismic & helirig operations*, June 2013, Version 1.1.

OSM10B Helicopter landing officer (HLO) – Marine

Date this sheet issued: 22 December 2014

Audience

Designated HLOs on offshore facilities.

Pre-requisites: At least six months prior experience in helideck operations on an offshore facility.

Objectives

- To ensure target audience understands the responsibilities and requirements of the Helicopter Landing Officer with regard to the safe and efficient handling of aircraft passengers and cargo including emergency response procedures.
- To ensure that HLOs are competent to carry out routine aircraft handling responsibilities and are competent to carry out their duties in the event of helicopter emergencies.
- To safely and efficiently manage the helideck environment prior to and during helicopter operations.

Knowledge

- Of regulations and guidelines that describe/define HLOs responsibilities (including any CAA requirements) and industry recognized documents both local and national as required.
- Of all hazards associated with helicopter operations including weather.
- Of fire fighting techniques and the use of safety equipment including portable fire fighting equipment, fixed fire fighting equipment (where applicable) and practical search and rescue techniques.
- Of the operations manual of the aircraft operators in regards to passenger handling.
- Of how to contribute in the weight and balance calculation for the mission including the use of passenger and load manifests.
- Of helideck layout and design requirements.

Understanding

- Of flights operations and the ability to oversee landing and takeoff offshore.
- Of all aspects of helideck operations with regard to the utilization of helideck attendants to ensure safe and efficient movement of passengers to and from aircraft.
- Of all helideck related equipment as regards to usage and location.
- Of the actions to be taken in the event of a helicopter related incident/crash such as

high and low impact on and off the helideck.

- Of the weight and balance limitations and requirements of the aircraft for the mission.
- Of basic meteorology, as applicable to the landing and takeoff of aircraft.

Skill

- At maintaining good working relationships with the person in overall charge of the helideck landing site.
- At organizing the helideck crew to carry out their duties in a safe and efficient manner (in accordance with minimum required industry standards).
- At supervising all aspects of helicopter operations including emergency response procedures as and when required.
- At handling proper embarkation and disembarkation of personnel from the aircraft and explaining such to passengers.

Example minimum duration

8 hours up to 3 days for vessel position, depending on the authorizing entity but in compliance with any applicable international regulations (OPITO). (It is assumed that offshore refueling of aircraft does not take place onboard seismic vessels and therefore this topic is not included).

References

- IOGP Report No. 390, *Aircraft management guidelines*, July 2008 updated August 2013, Issue 5.
- IOGP Report No. 410, *Air transportation – Recommended practices for contracted air operations*, June 2008.
- *OPITO Offshore Heli-Operations Role Standards Training Guidelines*, Review 2012 (Rev 0).
- CAA CAP 437, *Standards for Offshore Helicopter Landing Areas*, 7th Edition, February 2013.
- UKOOA, *Guidelines for the Management of Offshore Helideck Operations*, Issue 5, February 2005.

OSM11 Helicopter loadmaster (Cargo master)

Date this sheet issued: 22 December 2014

Audience

Loadmaster.

Pre-requisites: None.

Objectives

- To ensure target audience has the ability to effectively load and unload both internally stowed and externally carried cargoes, and recognize the need to segregate incompatible categories of cargo.

Knowledge

- Of safety requirements in relation to helicopters carrying loads.
- Of the load carrying capabilities of different types of helicopters (loads on the hook, floor resistance and strong points of the fuselage).
- Of documentation and the handling of Dangerous Goods.
- Of how to perform a weight and balance analysis.
- Of the specific type and model of aircraft to be used.
- Of potential emergencies and malfunctions and required actions following same.

Understanding

- Of the safe method of loading a helicopter in regards to segregation of incompatible cargo.
- Of the hazards associated with loads carried externally, including static electricity, weight, line length, tree heights, power lines and obstacles.
- Of how loads are safely loaded and transported in regards to load security.
- Of HAZMAT/Dangerous Goods and their implications.
- Of average load weights and the effect load properties have on aircraft performance.
- Of the influence of different environmental conditions.
- Of how to communicate to the pilot on any problems seen and give recommendations related to the cargo.
- Of cockpit resource management.
- Of the need to keep the area clear of unnecessary people.

Skill

- At organizing and safely participating in helicopter loading/unloading operations.
- At preparing cargoes ready to load.
- At carrying out a weight and balance analysis on the aircraft.
- At making sure that the loads are properly rigged up.

Example minimum duration

6 hours classwork plus 2 hours practical assessment, depending on the authorizing entity but in compliance with any applicable international regulations (at least 8 hours in countries where there are no applicable regulations). In some countries the Loadmaster will require a license or certificate.

References

- IOGP Report No. 390, *Aircraft management guidelines*, July 2008 updated August 2013, Issue 5.
- IOGP Report No. 410, *Air transportation – Recommended practices for contracted air operations*, June 2008.
- IOGP Report No. 420, *Helicopter guidelines for land seismic & helirig operations*, June 2013, Version 1.1.
- *OPITO Offshore Heli-Operations Role Standards Training Guidelines*, Review 2012 (Rev 0).

OSM12 Helicopter underwater escape (HUET)

Date this sheet issued: 22 December 2014

Audience

All personnel who regularly travel over open water in helicopters.

Pre-requisites: *Warning: personnel undertaking a HUET practical should first be assessed for good health and fear of water and confined places.*

Objectives

- To provide the target audience with the ability to efficiently and safely exit from a helicopter which has come down in the sea and has flooded or become submerged.

Knowledge

- Of the content and reason for passenger pre-flight briefing.
- Of the helicopter's emergency exits and escape systems.
- Of the techniques of escape from an inverted and/or submerged helicopter.
- Of the PPE issued and its correct use.
- Of survival techniques once escape has been affected (see OSM35 series).

Understanding

- Of the need for a team approach to a successful escape.
- Of the reason why escape from a sinking cabin must wait for the water to fill the cabin.
- Of the need to be familiar with the helicopter's escape system.
- Of the need to follow an orderly evacuation.

Skill

- At identifying and operating the emergency system whilst inverted and submerged.
- At controlling breathing and remaining calm.

Example minimum duration

1 day including practical assessment. Validity of four years.

References

- OPITO – *Basic Offshore Safety Induction & Emergency Training and Further Offshore Emergency Training*, Rev. 5, November 2011.

OSM13 Permit to work and lockout/tagout

Date this sheet issued: 22 December 2014

Audience

Line supervisors; the person in charge of the work; the task supervisor; those involved in such operations and activities which require critical task controls; operators such as electricians, plumbers, mechanics, etc.

Pre-requisites: None.

Objectives

- To provide all those who will identify, plan, manage and operate these critical controlled protection systems with a full comprehension of all aspects of the Permit To Work (PTW) process.
- To have the relevant and required competency to be able to implement and operate the system for optimum performance.

Knowledge

- Of the potential hazards associated with the site and plant/process.
- Of the different types of Permit To Work and lockout/tagout systems applicable to their site's hazards and risks and the philosophy behind their use.
- Of the precautions required before commencing work.
- Of local rules applying to the PTW system.
- Of details of the documentation involved.
- Of the philosophy behind their use.
- Of the critical emergency response procedures applicable to recover a PTW controlled activity to an acceptable condition.

Understanding

- Of the need for all involved to be fully aware of the system required for the site or facility, and to comply with the system controls.
- Of the potential consequences if the system fails.
- Of the need to continually audit, monitor and review each system against each new situation, circumstance and condition.
- Of the specific responsibilities associated with being a task supervisor.
- Of shift handover requirements.
- Of action to be taken in an emergency situation..

- Of the need for all to be aware of an ongoing PTW controlled activity and for one person to be in overall control, with no ambiguity of command to ensure the activity is managed effectively as per risk assessment, system standards conformance and applicable legislation.
- Of the PTW training requirements for the job and for members of the work party.
- Of the fact that the permit is a controlled document.
- Of who signs the permit.

Skill

- At identifying and developing the most effective system for the prevailing circumstances.
- At identifying the key hazard and risk conditions that need to be controlled/mitigated.
- At selecting the designated personnel for key processes.
- At communicating, bearing in mind multi language sites.

Example minimum duration

3 hours. A written exam or suitable assessment should be included in the training.

References

- Modules MAM4 (Lockout/tagout & permit to work systems) and FMM9 (Lockout/tagout and permit to work).
- Company PTW system.
- IOGP Report No. 189, *Guidelines on permit to work (P.T.W.) systems*, January 1993.
- IOGP Report No. 459, *OGP Life-Saving Rules*, April 2013, Version 2.

OSM14 Machinery

Date this sheet issued: 22 December 2014

Audience

Department heads, machine operators.

Pre-requisites: None.

Objectives

- To provide the target audience with ability to use and operate the identified machinery efficiently, correctly and safely.

Knowledge

- Of any applicable national legislation relating to usage.
- Of how the machinery to be used is operated and maintained.
- Of the hazards of the particular machine, and of working around machinery generally.
- Of the standards PPE in use for this machinery.
- Of the correct fitment of guards and the lack of a guard where there should be a guard.
- Of good workshop practices.
- Of the emergency stop system.
- Of the power system and lubrication to use.

Understanding

- Of the techniques and theory of operating the machine that will be used.
- Of the hazard management systems in place; guards; PPE; lockout/tagout; alarms; correct clothing.

Skill

- At safely operating the particular machine.
- At preparing the work in advance.
- At tackling each job efficiently and safely.
- At safely managing the work area, especially the movement of people, spills and trip hazards.

Example minimum duration

1 hour plus 30 minutes practical assessment.

Note: in some circumstances, a valid license is required.

References

- IOGP Report No. 459, *OGP Life-Saving Rules*, April 2013, Version 2.

OSM15 Abrasive wheels

Date this sheet issued: 22 December 2014

Audience

Department heads, abrasive wheel operators.

Pre-requisites: None.

Objectives

- To provide the target audience with the ability to be able to operate abrasive wheels/bench grinders in an efficient and safe manner.

Knowledge

- Of any applicable national legislation relating to usage.
- Of the types and composition of abrasive wheels and their identification codes.
- Of which types to use for which jobs.
- Of the maintenance (including dressing and balancing), use and storage.
- Of the associated hazards.
- Of the emergency shut-down system.
- Of the relative speeds of rotation for different types of jobs.
- Of the correct position and angle to set rests.

Understanding

- Of the requirement for a competent person to install and operate the abrasive wheel.
- Of the reasons for the various protective systems; guards, PPE, appropriate clothing.

Skill

- At recognizing an unsafe installation of the abrasive wheel and its associated machinery.
- At safe use of abrasive wheels.
- At planning and preparing each job.

Example minimum duration

1 hour.

References

- IOGP Report No. 459, *OGP Life-Saving Rules*, April 2013, Version 2.

OSM16 Cutting and welding (gas & electric)

Date this sheet issued: 22 December 2014

Audience

Department heads, and those who will operate cutting and welding equipment.

Pre-requisites: None.

Objectives

- To ensure that welding and cutting operations are conducted in a safe and efficient manner.
- To ensure correct welding/cutting techniques are employed with respect to the materials in question.
- To know the limitations of welding techniques and when specialist welders are to be used.

Knowledge

- Of the hazards associated with cutting and welding operations.
- Of safe operating procedures including permit to work systems.
- Of lockout/tagout and PPE.
- Of when specialist welders are required (for pressure vessels or aluminium etc.).
- Of correct selection of cutting and welding technique such as Metal Inert Gas or Tungsten Inert Gas.

Understanding

- Of coding systems for specialist welders.
- Of principles of different welding methods and techniques.
- Of the limitations of welding techniques, effects of mismatched metals, effects of impurities in weld/materials, effects of fatigue on metals.

Skill

- At carrying out welding and cutting operations to the standards and conditions required for coding or local requirements where coding not required.
- At selection of correct welding technique and materials.
- At use of permit to work systems.

Example minimum duration

2 hours classwork plus 4 hours practical assessment. This course should be provided by a specialist cutting and welding training organization that complies with the minimum industry training requirements, uses competent instructors and issues a nationally accepted certificate on successful completion of the course.

References

- IOGP Report No. 459, *OGP Life-Saving Rules*, April 2013, Version 2.

OSM17 High pressure

Date this sheet issued: 22 December 2014

Audience

Department heads, camp mechanics, marine engineers, gun mechanics, those working on pressurized systems.

Pre-requisites: None.

Objectives

- To provide the target audience with the ability to work safely with high and low pressure systems.
- To know the hazards associated with such systems.
- To know the immediate action to be taken in the event of typical pressure system failures.

Knowledge

- Of the different hazards associated with pressure systems.
- Of the statutory and company requirements for the safe installation, maintenance and operation of pressure systems.
- Of the hazards of pressure systems and the safe working practices for such systems;
- Of the immediate actions for any system failures.
- Of the process for safe re-commissioning of systems.
- Of types of relief valves used in pressure systems.
- Of PTW systems and lockout/tagout.

Understanding

- Of the principal physical characteristics of gases and liquids under pressure and the reason for procedures and guards which mitigate the effects of failure.
- Of the need to de-pressure before attempting any maintenance.

Skill

- Ability to inspect a pressure system and know which hazards are present.
- Ability to implement safe working procedures and practices for operating, inspecting and performing maintenance of high and low pressure systems.
- Ability to take action should an emergency involving a pressure system occur.

Example minimum duration

6 hours. In some jurisdictions statutory requirements may only allow personnel with formal qualifications or certifications to be able to perform inspections and maintenance work on pressure systems.

References

- Module FMM16 (Pressure systems in the workplace).
- IOGP Report No. 459, *OGP Life-Saving Rules*, April 2013, Version 2.

OSM18A Rigging (wire/synthetic rope utilization)

Date this sheet issued: 22 December 2014

Audience

Department heads, mechanics, operators, able seamen, deck officers.

Pre-requisites: None.

Objectives

- To provide the target audience with the ability to utilize in a safe manner the following: wire/synthetic ropes, slings, chains, eyebolts, etc.

Knowledge

- Of the different constructions and material types of the wire and synthetic ropes in use.
- Of how to specify, select, store, maintain and inspect the ropes for damage.
- Of the criteria for rejection, including change-out periods, the effects of chemicals, contaminants, wear and abrasion.
- Of equipment to prevent damage e.g. sheaves, jackets and grease.
- Of how to rig and connect ropes to winch drums correctly.
- Of the safe working loads of the system.
- Of how to load test and maintain a rope register.
- Of safe handling, PPE and positioning during operations.
- Of company specific guidelines.
- Of types of splices.

Understanding

- Of the importance of using the correct type of rope for the tasks.
- Of the importance of never exceeding the safe working load of a rope.
- Of the importance of using the correct size of equipment such as sheaves, thimbles, eyes and hooks.

Skill

- At splicing, terminating and fitting attachments.
- In the safe use of ropes.

Example minimum duration

8 hours.

References

- IOGP Report No. 376, *Lifting & hoisting safety recommended practice*, April 2006.
- IOGP Report No. 459, *OGP Life-Saving Rules*, April 2013, Version 2.
- Local regulations (e.g. LOLER, 1998: UK).

OSM18B Mechanical assistance (dollies etc.)

Date this sheet issued: 22 December 2014

Audience

Department heads, operators.

Pre-requisites: In some circumstances the operator will require a license.

Objectives

- To provide the target audience with the necessary ability to operate those types of mechanical handling equipment their job requires, in an efficient and safe manner.
- Covering hand trucks, carts, dollies, pallet jacks, etc.

Knowledge

- Of the particular types of mechanical handling equipment.
- Of its use and maintenance.
- Of the different types of work the system is best suited to.
- Of the PPE required.
- Of the hazards associated with the system.
- Of the guards and safety systems.

Understanding

- Of the need to use mechanical handling rather than manual handling.
- Of how best to use the systems.
- Of how loads are safely loaded and transported.
- Of the need to be familiar with the layout of the work place.
- Of why each job should be planned and proper preparations made.
- Of the need to keep the work place clear of unnecessary people, and obstructions.

Skill

- At deciding on the most appropriate equipment and technique of mechanical handling.
- At operating the particular equipment.
- At judging weights, sizes and best handling techniques for different loads.
- At loading and off-loading and storing/stacking loads.

Example minimum duration

1 hour classwork plus 2 hours practical assessment.

References

- Module OSM4 (Forklift truck driver).

OSM18C Crane operations

Date this sheet issued: 22 December 2014

Audience

Department heads, operators.

Pre-requisites: None.

Objectives

- To provide the target audience with the necessary ability to operate those types of mechanical handling equipment their job requires, in a safe and efficient manner.
- Recognizing there are huge differences between land and marine lifting operations, this module doesn't automatically cover both. The requirements for land and marine should be assessed separately by each company.

Knowledge

- Of what pre-lift aspects should be considered and how to prepare a lift plan.
- Of safe operating practices and procedures.
- Of how to give correct hand signals and responsibilities of signal persons.
- Of rigging gear including wire rope, slings, chains, rigging hardware, lifting devices, calculating sling loading, determining load weight, safe rigging practices and procedures.
- Of how to perform daily, monthly and periodic inspections.
- Of the guards and safety systems.

Understanding

- The need to use mechanical handling rather than manual handling.
- How best to use the systems.
- How loads are safely loaded and transported.
- The need to be familiar with the layout of the workplace.
- Why each job should be planned and proper preparations made.
- The need to keep the workplace clear of unnecessary people, and obstructions.

Skill

- Be able to determine the most appropriate equipment and technique of mechanical handling to use.
- Be able to safely operate the particular equipment.
- Be able to judge weights, sizes and best handling techniques for different loads.
- Be able to load and unload, and the storing/stacking of loads.

Example minimum duration

A minimum of 8 hours classroom plus 1-2 hours practical assessment (for overhead and mobile cranes). Personnel shall be re-assessed at intervals not greater than every five years. In some jurisdictions statutory requirements may only allow personnel with formal qualifications or certifications to be able to perform lifting operations.

References

- IOGP Report No. 376, *Lifting & hoisting safety recommended practice*, April 2006.
- IOGP Report No. 459, *OGP Life-Saving Rules*, April 2013, Version 2.
- Local regulations (e.g. LOLER, 1998; UK)

OSM19 Chainsaws & tree felling

Date this sheet issued: 22 December 2014

Audience

Department heads, operators.

Pre-requisites:

- Have a knowledge and understanding of chainsaw use and tree felling techniques.
- Have some experience in forestry or seismic line clearing teams.
- Have completed OSM24 (Advanced first aider – level 2).

Objectives

- To ensure that Chainsaw operators understand the hazards of their job and are able to plan a tree felling operation, operate a chainsaw, fell trees in a safe and efficient manner, and be prepared for possible emergencies.

Knowledge

- Of the mechanics of chainsaws – how they work.
- Of the theory of tree felling – cuts, direction of fall, controlling the falling trees, escape routes, different types of trees, different terrains (rocky, wet, sloping, etc.).
- Of completing a risk and hazard assessment of each situation prior to making cuts in order to formulate an effective and safe falling plan.
- Of emergency response for tree fallers.
- Of the legal, regulatory (e.g. regulations for line clearance and restoration) and contract requirements of the work location.

Understanding

- Of the correct use of chainsaws and other tree felling hardware (e.g. axes and wedges).
- Of the use of PPE and special protective equipment.
- Of the hazards of chainsaws and fuel (prevention of accidents and fire).
- Of the hazards of falling trees and debris.
- Of the effects to the Operator of vibration and noise.
- Of the protective devices available on the chainsaw.
- Of emergency response.

Skill

- At safely operating and maintaining a chainsaw, in all reasonably expected circumstances.
- Ability to carry out a hazard assessment and develop a safe falling plan.
- Ability to fell trees in a safe manner (minimizing unnecessary waste or disturbance).
- At safe manual handling techniques.
- Ability to attend to an emergency when falling trees.

Example minimum duration

4 to 6 hours classwork plus 6 hours practical assessment.

References

- Module OSM19 (Chainsaw operations & tree felling)
- <http://www2.worksafebc.com/Portals/Forestry/FallingAndBucking.asp>
- *IAGC Chainsaw Operator Competency Checklist* (Level 1), 2013.
- WorkSafe BC – B.C. Faller Training Standard BK96, ISBN 1496-6476, 2012.
- IOGP Report No. 459, *OGP Life-Saving Rules*, April 2013, Version 2.

OSM20A Drilling (mechanical) (truck mounted and heli-portable).

Date this sheet issued: 22 December 2014

Audience

Department heads, drill operators.

Pre-requisites: *Note: in some circumstances a special license is required to operate this type of equipment.*

Objectives

- To provide the audience with the ability to operate and maintain the equipment efficiently and safely.

Knowledge

- Of the equipment's operating system.
- Of the system maintenance, fuelling and lubrication.
- Of any local contacts to make before penetrating the surface in an area (e.g. organizations that identify buried cable or pipeline locations or other underground infrastructure).
- Of the hazards associated with the particular type of equipment.
- Of the emergency shutdown system.
- Of the PPE required.

Understanding

- Of the various legal and regulatory requirements at the work location.
- Of why the different types of PPE are necessary.
- Of why suitable clothing must be worn.
- Of why some kinds of jewelry are dangerous.
- Of the need for guards around moving parts.
- Of the different roles of the drill crew team.

Skill

- At operating the equipment efficiently and safely.
- Ability to safely position the equipment prior to starting work.
- At deciding the correct technique to use and the most suitable drill bit, mud, etc. to

employ.

- At coordinating the drill team.

Example minimum duration

3 hours classwork plus 3 hours practical assessment.

References

- Module OSM20B (Drilling – Semi manual).

OSM20B Drilling (semi-manual) (water flushing, air blow or auger)

Date this sheet issued: 22 December 2014

Audience

Department heads, drill operators.

Pre-requisites: None.

Objectives

- To enable those who will be involved in drilling shot-holes by a semi-manual technique, to carry out their job safely and efficiently.

Knowledge

- Of the workings of the equipment used – engine, pump, compressor.
- Of the types of ground cover – clays, sand, pebbles.
- Of any local contacts to make before penetrating the surface in an area (e.g. organizations that identify buried cable or pipeline locations or other underground infrastructure).
- Of the types of drilling pipe and cutting tools.
- Of the types of drilling additives.
- Of how water tables and aquifers may be affected (i.e. artesian flow).
- Of appropriate PPE.

Understanding

- Of the theory of removing drill hole cuttings.
- Of the effects of water or air pressure.
- Of the inherent hazards – fuel, hot exhaust, waste disposal (cuttings), air pressure, lifting, carrying, poor foot holds.
- Of the risk of not wearing PPE (hardhats, steel toe footwear, hand protectors).

Skill

- At operating the equipment safely and efficiently.
- At deciding the optimum technique for the site conditions.
- At maintaining the equipment in good order.

Example minimum duration

3 hours classwork plus 3 hours practical assessment.

References

- Module OSM20A (Drilling – Mechanical).

OSM21 Explosives handling and shot hole loading

Date this sheet issued: 22 December 2014

Audience

Department heads, explosives handlers.

Pre-requisites: None.

Objectives

- To enable employees who are responsible for handling and using explosives to conduct their work safely and efficiently.

Knowledge

- Of the legal requirements for the possession and use of explosives (licenses).
- Of the company's operating procedures.
- Of the properties and effects of different types of explosives and their safe detonation.
- Of the different types of electrical detonators, digital detonators, etc.
- Of the need to protect from unwanted detonation – electricity, static, lightning fire, impact.
- Of the correct method of storage and record keeping.
- Of the local laws on storage.
- Of transporting explosives safely and according to the local laws.
- Of how to safely dispose of aged or contaminated explosives.
- Of the potential environmental impact – noise, soil contamination, water table damage, cratering, etc.
- Of any legislation with respect to sleeping explosives and charges left in the ground.

Understanding

- Of the consequences of improper handling or use.
- Of the destructive power of explosives and the efficient use of minimum quantities.
- Of the danger posed by thunderstorms and static electricity (sand storms etc.).
- Of the reason for proper tamping.
- Of the need to report misfires and the need not to try to recover explosives after a misfire.
- Of the need to offset shot holes sufficiently far from structures, overhead electricity

cables or sensitive facilities.

Skill

- In preparing each job in a safe and efficient manner.
- In preparing a charge, including priming, earthing and connection to the blaster.
- In loading a primed charge into a hole at the required depth.
- In preventing environmental impact.

Example minimum duration

3 hours classwork plus 9 hours practical assessment. In some jurisdictions a license may be required.

References

- Module FMM14 (Seismic explosives operations)
- IAGC Land Geophysical Safety Manual, Tenth Edition, 2012.
- Consult the specific explosives manufacturer for guidance on any additional type and duration of training.

OSM22 Safety harnesses

Date this sheet issued: 22 December 2014

Audience

All those required to wear, choose, store and maintain safety harnesses (and equipment used for fall prevention, fall arresting, harness while working suspended, etc.).

Pre-requisites: None.

Objectives

- To make all involved aware of:
 - When to use the correct harness for the task.
 - How to identify reliable fixing points.
 - How to use and maintain the equipment.
- The module should cover the following types of harnesses:
 - Full body harness designed to arrest free falls.
 - Full body harness with attachable/integrated work positioning components.
 - Suspension belts for working while suspended.
 - High visibility vest harness
 - Mention should be made of body belts designed to restrain a person from falls but these should not be used when fall potential exists.

Knowledge

- Of the design of and proper application of the safety harness.
- Of the situations requiring the use of a harness.
- Of the correct wearing and adjustment.
- Of what is a reliable fixing point.
- Of safe storage and the inspection of the harness for wear and damage.
- Of company operating procedures, including working at height or other fall situations, and permit to work system.

Understanding

- Of situations which might lead to a fall and consequent injury.
- Of the benefit of wearing a properly secured harness to prevent this.
- Of the consequences of using expired, worn or damaged harnesses.
- Of choosing the correct safety harness for the job or situation.

Skill

- At inspecting and correctly using the harness (including adjustment and attachment to safe anchor point).
- At recognizing wear and damage and taking appropriate action to discard or repair the harness.

Example minimum duration

8 hour.

References

- OSHA Fall Protection Information
https://www.osha.gov/Region7/fallprotection/fall_protection_info.html
- Modules AM30 (Working at heights & fall prevention), FMM10 (Working at heights & fall prevention) and OSM32 (Working at heights – land & marine).
- IOGP Report No. 459, OGP *Life-Saving Rules*, April 2013, Version 2.

OSM23 Basic first aider – level 1

Date this sheet issued: 22 December 2014

Audience

Those designated as basic first aiders – level 1 health care providers.

Pre-requisites: None.

Objectives

- To enable the audience to provide basic life-saving actions such as bleeding control and Cardio-Pulmonary Resuscitation (CPR) that are required after an injury and until qualified support arrives.
- To enable the audience to describe clear details of the type of injury to remote medical professionals.

Knowledge:

- Of contents and use of Level 1 first aid kits.
- Of priorities in case of injury ('ABC').
- Of Emergency Call-out procedures.
- Of Safety Data sheets.
- Of blood borne pathogens and other associated hazards.
- Of how to utilize an AED (Automated External Defibrillator).

Understanding

- Of basic patient assessment.

Skill

- In the use and application of the recovery position.
- At Cardio-Pulmonary Resuscitation (CPR).
- At control of external bleeding.
- At application of simple dressings.
- At application of simple splints.
- At eye washing and other actions resulting from burns by heat, cold or chemicals.
- At using an AED.

Example minimum duration

12 hours. This involves classroom work and practical check off of skills.

Suggested nature of training: To be provided by person(s) with personal qualifications, experience and expertise of the subject.

References

- Modules OSM24 (Advanced first aider – level 2) and OSM25 (Health-care professional – level 3).
- IOGP Report No. 343, *Managing health for field operations in oil and gas activities*, October, 2011.
- IOGP Report No. 398, *Health aspect of work in extreme climates: A guide for oil and gas industry managers and supervisors*, December 2008.

OSM24 Advanced first aider – level 2

Date this sheet issued: 22 December 2014

Audience

Those designated as advanced first aiders – level 2 health-care providers.

Pre-requisites: Knowledge, understanding and skills of level 1.

Objectives

- To enable the audience to provide life-saving and stabilizing actions that are required within the first 20 minutes of an injury and an assessment for further actions.
- To enable the audience to make a clear report on the types of injury.

Knowledge

- Of the techniques of bleeding control, cardio-pulmonary resuscitation (CPR).
- Of how to manage an unconscious person.
- Of the treatment for shock, hypothermia, heat injury, immersion, burns.
- Of blood borne pathogens.
- Of what type of dressings to use.
- Of how to immobilize the injured parts.
- Of the contents and use of Level 2 first aid kits.

Understanding

- Of the need for care in transporting sick and injured patients.
- Of the need for personal hygiene in dealing with wounds.
- Of the need for personal protective equipment when managing wounds.
- Of communication and delegation in an emergency.
- Of first-aid requirements of the workplace, and the types of injuries that are likely.

Skill

- In resuscitation and control of bleeding.
- In managing and handling unconscious patient.
- At dressing and immobilization of injured parts.
- At treatment of injuries, including burns and scalds (including those caused by chemicals), hypothermia, heat-stroke and immersion.

- At simple record keeping.
- At preparing injured for transport to hospital.

Example minimum duration

18 hours mix of classwork and practical assessment.

Suggested nature of training: To be provided by person(s) with personal qualifications, experience and expertise of the subject.

References

- Modules OSM23 (Basic first aider – level 1) and OSM25 (Health-care professional – level 3)
- IOGP Report No. 343, *Managing health for field operations in oil and gas activities*, October, 2011.
- IOGP Report No. 398, *Health aspect of work in extreme climates: A guide for oil and gas industry managers and supervisors*, December 2008.

OSM25 Health-care professional – level 3

Date this sheet issued: 22 December 2014

Audience

Those designated as health-care professionals – level 3. Individuals with specialized training in emergency care, and are usually accredited by various professional organizations around the world.

Pre-requisites: Knowledge, understanding and skills of both level 1 and level 2.

Objectives

- To enable the audience to provide life-saving and stabilizing actions that are required within the first 20 minutes of an injury and an assessment for further actions.
- To enable the audience to make a clear report on the types of injury.

Knowledge

- Specialized training in emergency care, including techniques of bleeding control, cardio-pulmonary resuscitation (CPR).
- Of how to manage an unconscious person.
- Of the treatment for shock, hypothermia, heat injury, immersion, burns.
- Of blood borne pathogens.
- Of what type of dressings to use.
- Of how to immobilize the injured parts.
- Of the contents and use of a Level 3 medical kit.
- Of the use of identified drugs and medicines under qualified supervision.
- Of the use of the company's medevac procedures.
- Of food hygiene.

Understanding

- Of management of medical emergencies with remote support and knowledge of the local Medical Emergency Response Plan (MERP).
- Of the need for care in transporting sick and injured patients.
- Of the need for personal hygiene in dealing with wounds.
- Of the need for personal protective equipment when managing wounds.
- Of communication and delegation in an emergency.
- Of first aid requirements of the workplace, and the types of injuries that are likely.

- Of the hazards of blood borne pathogens.

Skill

- At resuscitation and control of bleeding.
- At managing and handling unconscious patient.
- At dressing and immobilization of injured parts.
- At the treatment of injuries, including burns and scalds (including those caused by chemicals), hypothermia, heat-stroke and immersion.
- At suturing and at insertion of an airway.
- At simple record keeping.
- At preparing injured for transport to hospital.
- At administering identified drugs and medicines under qualified supervision.
- At using a defibrillation unit.
- At effective communication.

Example minimum duration

30 hours mix of classwork and practical assessment.

Suggested nature of training: To be provided by person(s) with personal qualifications, experience and expertise of the subject.

References

- Modules OSM 23 (Basic first aider – level 1) and OSM24 (Advanced first aider – level 2).
- IOGP Report No. 343, *Managing health for field operations in oil and gas activities*, October, 2011.
- IOGP Report No. 398, *Health aspect of work in extreme climates: A guide for oil and gas industry managers and supervisors*, December 2008.

OSM26 Basic fire-fighting techniques

Date this sheet issued: 22 December 2014

Audience

All crew members.

Pre-requisites: None.

Objectives

- Ensure that fire team members have the ability to safely and effectively fight fires.

Knowledge

- Of the chemistry of fire.
- Of the behaviour of fire.
- Of classification of fires and appropriate extinguishing agents and how they are best used.
- Of basic fire fighting safety techniques, including knowing when to withdraw.
- Of use of fire-fighting equipment and appliances.
- Of hazardous materials.
- Of fire fighting operations.
- Of products of combustion.
- Of toxic fumes.

Understanding

- Of how various extinguishing agents work.
- Of which extinguishing agents should be used for the different types of fire.
- Of the importance of teamwork and the dangers of working alone.
- Of how various pieces of fire fighting equipment work.
- Of safe and effective fire fighting operations.

Skill

- In use of extinguishing agents and equipment.
- In functioning as a team.
- At safe and proper use of personal protective equipment.

- At evaluating the fire risks and putting out the fire.

Example minimum duration

3 hours classwork plus 3 hours practical assessment. On marine vessels STCW 2011 defines the firefighting training requirements.

References

- Modules FMM7 (Fire prevention and control), OSM27 (Fire warden) and OSM28 (Fire-fighting team support – land & marine operations).
- IMO, International Convention on Standards of Training, Certification and Watchkeeping (STCW) for Seafarers, ISBN: 978-92-801-1528-4, 2011.

OSM27 Fire warden

Date this sheet issued: 22 December 2014

Audience

Those designated as fire wardens.

Pre-requisites: None.

Objectives

- To provide people with the relevant competency to check the visual availability of fire-fighting equipment, alarms and emergency exit routes as per the developed fire plan.
- To assist with development of the site emergency evacuation plan.
- To ensure those designated as Fire Wardens know the specific tasks associated with the duties, so that a safe and effective evacuation takes place in the event of a fire or other emergency that requires site occupants to muster at the designated area and thereafter to follow orders of the Emergency response team leader.

Knowledge

- Of the vessel/site Emergency plan for the designated area.
- Of the evacuation routes from the designated area to the location of the assembly point for the evacuees.
- Of the procedures and methodology for clearing a site, mustering and reporting of any missing personnel.
- Of any special equipment and procedures to be used while serving as a Fire Warden and emergency alarms/designated response to the alarms.

Understanding

- Of the appropriate response to emergency alarms.
- Of the escape routes and how they should be maintained.
- Of the importance of the assembly area.

Skill

- Ability to stay calm in emergency situations and provide direction as trained and instructed during an emergency.
- In the use of any specific protective equipment, e.g. smoke hoods.

Example minimum duration

3 hours.

References

- Modules FMM7 (Fire prevention and control), OSM26 (Basic fire-fighting techniques) and OSM28 (Fire-fighting team support – land & marine operations).

OSM28 Fire-fighting team support – land & marine operations

Date this sheet issued: 22 December 2014

Audience

Crew members who may be allocated to support a fire team onboard a vessel, an installation or at a land site, operation or base.

Note: This training is not designed for people who are NOT part of the official fire team. Fire team members are required by a process or legislation to be formally trained to a recognized and formal standard and be part of a designated fire team.

Pre-requisites: None.

Objectives

- To provide individuals with the competence required to assist designated fire-fighting teams with functions such as preparing and dressing the team members, rolling out of fire hoses, boundary cooling, preparing fire equipment, etc.

Knowledge

- Of the hazardous conditions and flammable properties of materials on the site, be they stored or as part of the construction;
- Of the hazard map relating to these potential fire risks as part of the site emergency plan.
- Of the fire types and classifications, chemical reactions, burn rates, heat transference, effects of smoke and the like;
- Of how each type of fire-fighting appliance, equipment and materials are used and the effectiveness of them in dealing with the fire type or classification;
- Of correct use and limitations of PPE and all equipment available at the site used for fighting fires;
- Of ventilation techniques, bulk head isolation and breaching procedures;
- Of standard site/base/location/installation fire water distribution and inert gas systems;
- Of alarm systems and overrides used throughout the site;
- Of the layout of the site to which they are allocated for access/egress;
- Of the site emergency response plans.

Understanding

- Of hazards and risks associated with fighting a fire e.g. from an elevated location and working downward to the source of the fire, confined spaces or exposed conditions.
- Of access and egress and how a fire is approached and how to escape if fire is advancing.
- Of how fire can spread in certain types of buildings, vehicles, or conditions and circumstances.
- Of the importance of teamwork and acting as part of an organized/supervised approach, as well as the dangers of working alone.
- Of the site hazards and credible risks and how fire is contained and extinguished at those particular sites.
- Of equipment utilization and competency at the site.

Skill

- In all applicable competencies required to support the fire team such as hose handling, fire-fighting systems control, use of the fire team PPE, etc.
- At the use of different extinguishing agents, equipment, methodologies and techniques.
- Ability of the hose team members to move as a unit and coordinate with other hose lines to effect boundary cooling.
- At hazard identification and risk analysis in real time.

Example minimum duration

2 hours classroom plus 2 hours practical assessment, at the site using the site relevant equipment.

References

- Modules FMM7 (Fire prevention and control), OSM26 (Basic fire-fighting techniques) and OSM27 (Fire warden).

OSM29 Breathing apparatus – general use

Date this sheet issued: 22 December 2014

Audience

- Seismic personnel who may be expected to control emergency squads or will use breathing apparatus as members of emergency or emergency back-up squads.
- Personnel who make authorized confined space entries.
- All who use breathing apparatus for specified tasks.

Pre-requisites: None.

Objectives

- To enable personnel who may control emergency squads or wear breathing apparatus to conduct their tasks safely, efficiently and minimizing the risk to themselves and others.

Knowledge

- Of the basic use of breathing apparatus and its component parts.
- Of the correct fitment and adjustment.
- Of the pre-use and after-use checking control boards.
- Of the procedures for the buddy system.
- Of the procedures for basic search and rescue and fire-fighting techniques.
- Of the permit to work systems for 'confined space' entries.
- Of the testing and safeguarding of atmospheres.
- Of re-fillings one's own air bottles where applicable.

Understanding

- Of the limitations and consequences of improper use of breathing apparatus.
- Of the risk of toxic, anoxic and poisonous atmospheres.
- Of the demands on the metabolism of working in hot, humid, or cold and intimidating conditions.
- Of the proper use of rescue equipment and contingency arrangements.

Skill

- At evaluating the situation and selecting the appropriate technique and equipment.
- At carrying out the operation safely and efficiently.

Example minimum duration

2 hours classwork plus 2 hours practical assessment.

References

- Module OSM31 (Confined space operations)
- IOGP Report No. 459, *OGP Life-Saving Rules*, April 2013, Version 2.

OSM30 Manual handling and lifting

Date this sheet issued: 22 December 2014

Audience

All personnel.

Pre-requisites: None.

Objectives

- To ensure that the audience is aware of the risks associated with stepping, handling and lifting tasks and can conduct them safely.

Knowledge

- Of the results of improper lifting and handling activities.
- Of the different options to reduce or eliminate the need to manually carry out these activities.
- Of the personal limitations and when to seek assistance.

Understanding

- Of the proper handling and lifting techniques.
- Of the effects on the body of improper techniques.

Skill

- At assessing how best to handle and lift different types of loads.
- Ability to recognize personal limitations and when to seek additional assistance.
- At performing job hazard analyses.

Example minimum duration

2 hours classwork plus 2 hours practical assessment.

References

- Module FMM6 (Job hazard analysis).

OSM31 Confined space operation

Date this sheet issued: 22 December 2014

Audience

Those who are involved in confined space operations. All marine and seismic crew and subcontractors. (This hazard continually kills people every year and as a result everyone onboard a vessel should have this knowledge and training).

Pre-requisites: None.

Objectives

- To provide the audience with the ability to conduct their work efficiently and safely.

Knowledge

- Of the hazards that may exist and the option to avoid the need for confined space entry.
- Of risk assessment including but not limited to: toolbox talk; testing the air quality; toxic fumes; ventilation; poor lighting; heat exhaustion; existence of flammable residues or contents; claustrophobia; cramped conditions; possibility of getting stuck; last minute risk assessment.
- Of the techniques to give maximum protection; communication system; buddy system; body harness; lockout/tagout; permit to work; breathing apparatus.
- Of the emergency rescue plan.
- Of gas monitors.

Understanding

- Of the full implications of the hazards that may exist.
- Of how the various protection systems work and what they protect against.
- Of why it is dangerous to work alone.
- Of why it is dangerous to try and rescue someone without the proper equipment.

Skill

- At planning and carrying out work in confined spaces.
- At assessing the risks and managing them successfully.
- At rescuing someone who is trapped using various aids (body harness etc.).

Example minimum duration

2 hours classwork plus 2 hours practical assessment.

References

- Modules AM23 (Confined spaces) and OSM29 (Breathing apparatus – general use)
- IOGP Report No. 459, *OGP Life-Saving Rules*, April 2013, Version 2.

OSM32 Working at heights (land and marine)

Date this sheet issued: 22 December 2014

Audience

Those who are required to work at heights, or could fall from a height.

Pre-requisites: *If an employee is frightened or apprehensive about working at heights, then the employee should not be given such work.*

Objectives

- To provide the target audience with the ability to work safely and efficiently at heights and also to work safely at ground level near an excavation which presents a fall-into risk.
- To know the immediate actions to be taken in the event of a fall from height, a person suspended at height, or a fall-into situation.

Knowledge

- Of the different hazards associated with working at height, and near excavations.
- Of the statutory and company requirements for working at height.
- Of the techniques and fall arrest devices for working at heights – harnesses, guard rails, duck boards (load distribution), safety nets, ladders etc.
- Of permit to work and rescue at height systems.
- Of the hazards associated with working at heights.
- Of the danger from objects falling from height (e.g. tethered tools, kick boards).

Understanding

- Of the hazards involved in working at height.
- Of the selection of appropriate controls and mitigation methods for the hazards involved.
- Of the proper use and inspection of safety equipment, platforms, anchor devices and ladders.
- Of a fall distance calculation as part of a fall protection plan.

Skill

- At identifying the different areas where working at height may exist and their associated hazards.
- At implementing safe working procedures and practices for working at height and

near excavations.

- At taking the necessary actions should an emergency involving working at heights occur.

Example minimum duration

3 hours. In some jurisdictions statutory requirements may only allow personnel with formal qualifications or certifications to be able to carry out work at height, work at height rescue and the erection of certain scaffolding systems.

References

- Modules AM30 (Working at heights & fall prevention), FMM10 (Working at heights & fall prevention) and OSM22 (Safety harnesses)
- The Dropped Object Prevention Scheme – DROPS Online.
<http://www.dropsonline.org>
- IOGP Report No. 459, *OGP Life-Saving Rules*, April 2013, Version 2.

OSM33 On site food handling and hygiene

Date this sheet issued: 22 December 2014

Audience

All kitchen staff, domestics, galley staff.

Pre-requisites: None.

Objectives

- To provide the audience with the necessary ability to conduct their work efficiently and safely and with due regard to their own and their fellow employees health.

Knowledge

- Of the principles of food and personal hygiene.
- Of the hazards associated with onsite food preparation and storage.
- Of the different health hazards from unclean or contaminated food.
- Of the correct storage procedures in different climatic conditions.
- Of the Hazard Analysis Critical Control Point (HACCP) principles.

Understanding

- Of basic bacteriology
- Of food poisoning and food-borne disease.
- Of the methods and reasons for food preparation, cooking and serving.
- Of how to prevent food contamination.
- Of the need for personal hygiene, fitness for work and reporting if illness.
- Of the importance of cleanliness of food preparation tools, equipment, surfaces and facilities.
- Of the importance of keeping an environment free of contaminants (biological or others) when preparing, storing and handling food.

Skill

- At managing food purchase, storage and preparation.
- In the use of kitchen equipment and especially sharp knives and tools.

Example minimum duration

6 hours. A pre-requisite in some circumstances, is that food handlers may need a license, and periodic medicals.

References

- IOGP Report No. 397, *A Guide to Food and Water Safety for the oil and gas industry*, 2009.

OSM34 Remotely operated vehicles (ROV)

Date this sheet issued: 22 December 2014

Audience

All those involved in ROV operations.

Pre-requisites: None.

Objectives

- To ensure safe, environmentally friendly and efficient operations of ROVs (Remotely Operated Vehicles) in the specified environment, operations scenario and equipment fit.

Knowledge

- Of the technical and functional knowledge of the type of ROV system being used.
- Of how to operate the vehicle and interface with concurrent operations.
- Of the permit to work systems for sub-sea and other concurrent work.

Understanding

- Of the limitations and safety aspects of operating ROVs; especially when working around fixed installations and dynamically positioned vessels.
- That marine archeology sites must not be disturbed.

Skill

- At basic ROV operating and maintenance skills.
- At operation of cranes/davits.
- At using temporary electrical and hydraulic installation techniques.
- At completing permit to work forms.
- At communicating with others in simultaneous operations.
- At maintaining an ROV work register (or log).

Example minimum duration

6 hours.

References

- IMCA R 004, *Code of practice for the safe and efficient operation of remotely operated vehicles*, July 2009, Rev. 3.

OSM35A Survival techniques – marine

Date this sheet issued: 22 December 2014

Audience

All those assigned to the relevant type of operation including visitors to the field.

Pre-requisites: None.

Objectives

- To ensure that any person who is lost or becomes detached from the work team has the ability to survive, until rescued or reaching safety.

Knowledge

- Of when and why to move or stay put and critical issues that may influence or change that decision.
- Of the way the human body reacts to natural elements (sun, wind, cold, immersion in water).
- Of how best to protect the body to avoid life threatening exposure (best options for resting places, managing clothing, survival suits, wet suits, sun shades etc.).
- Of how to sustain the body (food, water, what may be edible, what must not be considered).
- Of the effects of exertion – how to conserve energy.
- Of how to use survival equipment (satellite phone, personal locator beacon, radios, flares, signaling mirrors, life jackets etc.).
- Of technique of search and rescue (helicopters, scramble nets to large boats).
- Of steering and sailing a survival craft.
- Of the treatment of exposure injuries.
- Of the hazards involved (sun, temperature, poisonous/dangerous flora and fauna).
- Of team survival techniques.
- Of the techniques to maximize your visibility to the rescue team.
- Of the techniques of search and rescue (helicopter, rope ladders, lifting strop) including mental preparation for own effort of extraction if located with surface support only.

Understanding

- Of the psychology of survival techniques, and importance of maintaining a positive attitude.
- Of the need to ration food and especially water.
- Of the need to maintain morale.
- That people may be in shock and therefore not able to respond sensibly.
- Of the need to carry an appropriate and well provisioned emergency kit.
- Of how environmental conditions affect the situation.

Skill

- At planning and using the survival and rescue techniques.
- At providing additional food and especially drinking water.
- At managing people in a survival situation (watch keeping, maintaining morale, establishing order, assigning tasks).
- At improvising with available equipment and utensils.
- At navigating.
- At keeping a record of events and people involved.
- At efficiently using the emergency kit.
- At identifying suitable refuge, building a shelter and making a fire (if landfall reached).

Example minimum duration

6 hours.

References

- Module OSM2 (Helicopter underwater escape – HUET).
- Step Change in Safety – Loading of Lifeboats during drills.
- IOGP Report No. 398, *Health aspect of work in extreme climates: A guide for oil and gas industry managers and supervisors*, 2008.
- OPITO – *Basic Offshore Safety Induction & Emergency Training and Further Offshore Emergency Training*, Rev. 5, November 2011.

OSM35B Survival techniques – land

Date this sheet issued: 22 December 2014

Audience

All those assigned to the relevant type of operation including visitors to the field.

Pre-requisites: None.

Objectives

- To ensure that any person who is lost or becomes detached from the work team has the ability to survive, until rescued or reaching safety.

Knowledge

- Of when and why to move or stay put and critical issues (e.g. if injured are on location) that may influence or change that decision.
- Of the way the human body reacts to natural elements (sun, wind, heat, cold, immersion in water).
- Of how best to protect the body to avoid life threatening exposure (best options for resting places, managing clothing, sun shades, inspections regime for parasites, etc.).
- Of how to sustain the body (food, water, what may be edible, what must not be considered).
- Of the effects of exertion – how to conserve energy.
- Of how to use survival equipment (satellite phone, personal locator beacon, radios, flares, signaling mirrors etc.).
- Of technique of search and rescue.
- Of the treatment of exposure injuries.
- Of the treatment of bites, stings, parasites, etc.
- Of the hazards involved (sun exposure, extreme temperatures, poisonous/dangerous flora and fauna).
- Of team survival techniques.
- Of the techniques to maximize your visibility to the rescue team.
- Of the techniques of search and rescue (helicopter, rope ladders, lifting strop) including mental preparation for own effort of extraction if located with surface support only.

Understanding

- Of the psychology of survival techniques, and importance of maintaining a positive attitude.
- Of the need to ration food and especially water.
- Of the need to maintain morale.
- That people may be in shock and therefore not able to respond sensibly.
- Of the need to carry an appropriate and well provisioned emergency kit.
- Of how environmental conditions affect the situation.

Skill

- At planning and using the survival and rescue techniques.
- At providing additional food and especially drinking water.
- At managing people in a survival situation (watch keeping, maintaining morale, establishing order, assigning tasks).
- At improvising with available equipment and utensils.
- At navigating.
- At keeping a record of events and people involved.
- At efficiently using the emergency kit.
- At identifying suitable refuge, building a shelter and maintaining a heat source, when necessary.

Example minimum duration

6 hours. Project and location specific.

References

- IOGP Report No. 398, *Health aspect of work in extreme climates: A guide for oil and gas industry managers and supervisors*, 2008.

OSM35C Survival techniques – jungle

Date this sheet issued: 22 December 2014

Audience

All those assigned to the relevant type of operation including visitors to the field.

Pre-requisites: None.

Objectives

- To ensure that any person who is lost or becomes detached from the work team has the ability to survive, until rescued or reaching safety.

Knowledge

- Of when and why to move or stay put and critical issues that may influence or change that decision.
- Of the way the human body reacts to natural elements (sun, wind, cold, immersion in water).
- Of how best to protect the body to avoid life threatening exposure (best options for resting places, managing clothing, sun shades etc.).
- Of how to sustain the body (food, water, what may be edible, what must not be considered).
- Of the effects of exertion – how to conserve energy.
- Of how to use survival equipment (satellite phone, personal locator beacon, radios, flares, signaling mirrors etc.).
- Of technique of search and rescue.
- Of the treatment of exposure injuries.
- Of the treatment of bites, stings, parasites etc.
- Of the hazards involved (sun exposure, temperature, poisonous/dangerous flora and fauna).
- Of team survival techniques.
- Of the techniques to maximize your visibility to the rescue team.
- Of the techniques of search and rescue (helicopter, rope ladders, lifting strop) including mental preparation for own effort of extraction if located with surface support only.

Understanding

- Of the psychology of survival techniques, and importance of maintaining a positive attitude.
- Of the need to ration food and especially water.
- Of the need to maintain morale.
- That people may be in shock and therefore not able to respond sensibly.
- Of the need to carry an appropriate and well provisioned emergency kit.
- Of how environmental conditions affect the situation.

Skill

- At planning and using the survival and rescue techniques.
- At providing additional food and especially drinking water.
- At managing people in a survival situation (watch keeping, maintaining morale, establishing order, assigning tasks).
- At improvising with available equipment and utensils.
- At navigating.
- At keeping a record of events and people involved.
- At efficiently using the emergency kit.
- At identifying suitable refuge, building a shelter and making a fire.

Example minimum duration

6 hours.

References

- IOGP Report No. 398, *Health aspect of work in extreme climates: A guide for oil and gas industry managers and supervisors*, 2008.

OSM35D Survival techniques – arctic

Date this sheet issued: 22 December 2014

Audience

All those assigned to the relevant type of operation including visitors to the field.

Pre-requisites: None.

Objectives

- To ensure that any person who is lost or becomes detached from the work team has the ability to survive, until rescued or reaching safety.

Knowledge

- Of when and why to move or stay put and critical issues that may influence or change that decision.
- Of the way the human body reacts to natural elements (sun, wind, cold, immersion in water).
- Of how best to protect the body to avoid life threatening exposure (best options for resting places, managing clothing, survival suits, wet suits, sun shades etc.).
- Of how to sustain the body (food, water, what may be edible, what must not be considered).
- Of the effects of exertion – how to conserve energy.
- Of how to use survival equipment (satellite phone, personal locator beacon, radios, flares, signaling mirrors, life jackets etc.).
- Of technique of search and rescue (helicopters, scramble nets to large boats).
- Of the treatment of exposure injuries.
- Of the hazards involved (sun, temperature, poisonous/dangerous flora and fauna).
- Of team survival techniques.
- Of the techniques to maximize your visibility to the rescue team.
- Of the techniques of search and rescue (helicopter, rope ladders, lifting strop) including mental preparation for own effort of extraction if located with surface support only.

Understanding

- Of the psychology of survival techniques, and importance of maintaining a positive attitude.
- Of the need to ration food and especially water.
- Of the need to maintain morale.
- That people may be in shock and therefore not able to respond sensibly.
- Of the need to carry an appropriate and well provisioned emergency kit.
- Of how environmental conditions affect the situation.

Skill

- At planning and using the survival and rescue techniques.
- At providing additional food and especially drinking water.
- At managing people in a survival situation (watch keeping, maintaining morale, establishing order, assigning tasks).
- At improvising with available equipment and utensils.
- At navigating.
- At keeping a record of events and people involved.
- At efficiently using the emergency kit.
- At identifying suitable refuge, building a shelter and making a fire, or maintaining a heat source.

Example minimum duration

6 hours.

References

- IOGP Report No. 398, *Health aspect of work in extreme climates: A guide for oil and gas industry managers and supervisors*, 2008.

OSM35E Survival techniques – swamp

Date this sheet issued: 22 December 2014

Audience

All those assigned to the relevant type of operation including visitors to the field.

Pre-requisites: None.

Objectives

- To ensure that any person who is lost or becomes detached from the work team has the ability to survive, until rescued or reaching safety.

Knowledge

- Of when and why to move or stay put and critical issues (e.g. if injured are on location) that may influence or change that decision.
- Of the way the human body reacts to natural elements (sun, wind, heat, cold, immersion in water).
- Of how best to protect the body to avoid life threatening exposure (best options for resting places, managing clothing, inspection regime for parasites etc.).
- Of how to sustain the body (food, water, what may be edible, what must not be considered).
- Of the effects of exertion – how to conserve energy.
- Of how to use survival equipment (satellite phone, personal locator beacon, radios, flares, signaling mirrors, life jackets etc.).
- Of technique of search and rescue.
- Of steering and sailing a survival craft (if applicable).
- Of the treatment of exposure injuries.
- Of the treatment of bites, stings, parasites, etc.
- Of the hazards involved (sun, temperature, poisonous/dangerous flora and fauna).
- Of team survival techniques.
- Of the techniques to maximize your visibility to the rescue team.
- Of the techniques of search and rescue (helicopter, rope ladders, lifting strop) including mental preparation for own effort of extraction if located with surface support only.

Understanding

- Of the psychology of survival techniques, and importance of maintaining a positive attitude.
- Of the need to ration food and especially water.
- Of the need to maintain morale.
- That people may be in shock and therefore not able to respond sensibly.
- Of the need to carry an appropriate and well provisioned emergency kit.
- Of the specific challenges and restrictions of isolation in a swamp environment.

Skill

- At planning and using the survival and rescue techniques.
- At providing additional food and especially drinking water.
- At managing people in a survival situation (watch keeping, maintaining morale, establishing order, assigning tasks).
- At improvising with available equipment and utensils.
- At navigating.
- At keeping a record of events and people involved.
- At efficiently using the emergency kit.
- At identifying suitable refuge, building a shelter and making a fire.

Example minimum duration

6 hours. Project and location specific.

References

- IOGP Report No. 398, *Health aspect of work in extreme climates: A guide for oil and gas industry managers and supervisors*, 2008.

OSM36 Hook-up man (ground crew) (new)

Date this sheet issued: 22 December 2014

Audience

Designated hook-up (ground crew) personnel.

Pre-requisites: None.

Objectives

- To ensure that the target audience has the ability to effectively load and unload externally carried cargoes, and recognize the need to segregate incompatible categories of cargo.

Knowledge

- Of safety requirements in relation to helicopter carrying loads.
- Of the safe ways to load nets and/or other cargo.
- Of the proper way to hook and unhook loads from the cargo hooks.
- Of average weights of material so that they can put together a net within the weight parameters established for the type of aircraft.
- Of required PPE and proper use.
- Of first aid and fire-fighting.
- Of requirements for control under the aircraft.
- Of required actions following a helicopter emergency or malfunction.

Understanding

- Of the safe methods of loading a helicopter.
- Of the hazards associated with loads carried externally, including static electricity, weight, line length, tree heights, power lines and obstacles.
- Of HAZMAT/Dangerous Goods and their implications.
- Of average load weights.
- Of the influence of different environmental conditions on aircraft performance.
- Of helipad and drop zones housekeeping.

Skill

- At organizing and safely participating in helicopter loading/unloading operations as part of a team.
- At preparing cargoes ready to be loaded.
- At rigging up loads safely.
- At consistently putting together loads that are efficient for the operations and have the right weight so that the aircraft can lift them according to plan.
- At using international aviation hand signals.

Example minimum duration

2 hours classroom plus 1 hour practical assessment. Project or equipment specific knowledge can't be transferred to use on different aircraft without repeating the training for that type of aircraft.

References

- IOGP Report No. 420, *Helicopter guidelines for land seismic & helirig operations*, June 2013, Version 1.1.

OSM37 Working on in-sea equipment (new)

Date this sheet issued: 22 December 2014

Audience

Operators assigned as crewmen for work on in-sea equipment in marine seismic operations.

Pre-requisites: None.

Objectives

To ensure that the target audience has the correct background and is competent in the safe operating principles, procedures and hazards associated with working on in-sea equipment from a small boat, and for launch and recovery of the small boat using a davit.

Knowledge

- Of company procedures for launch and recovery of small boats and working on in-sea equipment.
- Of tasks related to operations of and behaviour in a small boat
 - Pre-mission tasks.
 - Launch and recovery.
 - Operation and limitations of small boat ancillary equipment.
 - Changing streamer sections, modules, peripherals and tailbuoys.
 - Barnacle scraping.
 - Removing stuck gear.
 - In-sea equipment inspection.
 - Emergency and rescue situations.

Understanding

- Of how environmental factors affect a small boat.
- Of how to communicate clearly and perform tasks in the correct sequence.
- Of how a small boat behaves in a launch and recovery situation.
- Of how in-sea equipment attached correctly or in-correctly to the small boat restricts its movement.
- Of how a small boat behaves in relation to in-sea equipment during an emergency.

Skill

- At serving as a small boat crewman during launch, recovery and while working on in-sea equipment.
- At using communications signals and language.
- At identifying risk and foreseeing outcome of actions performed on board a small boat.
- Ability to assist in the rescue of a person from the sea.
- Ability to safely escape a capsizing small boat.

Example minimum duration

6 hours classroom plus 15 hours practical assessment.

References

- Module OSM 8 (Small boats – marine operations)
- IAGC Guidelines for Marine Small Boat Training and Competency, September 2013.
- IOGP Report No. 459, OGP *Life-Saving Rules*, April 2013, Version 2.

OSM38 Aircraft base radio operator (new)

Date this sheet issued: 22 December 2014

Audience

Designated radio operator – ground based.

Pre-requisites: None.

Objectives

- To ensure that the target audience understands the responsibilities and requirements with regard to safe and efficient ground to air communication.
- To ensure that Radio Operators are competent to carry out flight following and coordination responsibilities and are competent to carry out duties in the event of helicopter emergencies.

Knowledge

- Of regulations and guidelines that govern the use of radiotelephony devices.
- Of hazards associated with aircraft operations including weather.
- Of emergency response and call-out procedures.
- Of local Civil Aviation requirements.
- Of the appropriate language(s) and fluency.
- Of aviation radio communication terminology.
- Of weather.

Understanding

- Of flight following techniques and record keeping requirements.
- Of aircraft operations and procedures applicable to the task.
- Of the operation and limitations of various radio equipment in use (VHF, UHF, HF-SSB, etc.)

Skill

- Able to receive and re-transmit weather reports and forecasts.
- At tracking aircraft during the course of operations.
- Able to effectively communicate information.

Example minimum duration

6 hours. In some jurisdictions a radio operator's license may be required.

References

- IOGP Report No. 420, *Helicopter guidelines for land seismic & helirig operations*, June 2013, Version 1.1.
- IOGP Report No. 390, *Aircraft management guidelines*, July 2008 updated August 2013, Issue 5.

OSM39 Aircraft refueling personnel (new)

Date this sheet issued: 22 December 2014

Audience

Designated aircraft refueling personnel.

Pre-requisites: None.

Objectives

- To ensure that the target audience understands the responsibilities and requirements with regard to safe and efficient refueling/fuel handling including emergency response procedures.

Knowledge

- Of aircraft refueling procedures.
- Of equipment used for transportation, storage, filtration and delivery of aviation fuel.
- Of bonding methods and management of static electricity.
- Of fuel quality monitoring methods and corrective actions to be taken.
- Of servicing requirements of refueling systems and equipment.
- Of aircraft requirements.
- Of spill containment and required actions following a spillage.
- Of fire-fighting techniques and equipment used to fight aircraft fires.

Understanding

- Of the hazards caused by aircraft damage, static discharge and fuel contamination.
- Of the hazards to refueling personnel such as health impacts and hazards during hot refueling.
- Of safe working practices.

Skill

- At safely and efficiently delivering uncontaminated fuel to aircraft.

Example minimum duration

8 hours.

References

- IOGP Report No. 420, *Helicopter guidelines for land seismic & helirig operations*, June 2013, Version 1.1.
- IOGP Report No. 390, *Aircraft management guidelines*, July 2008 updated August 2013, Issue 5.

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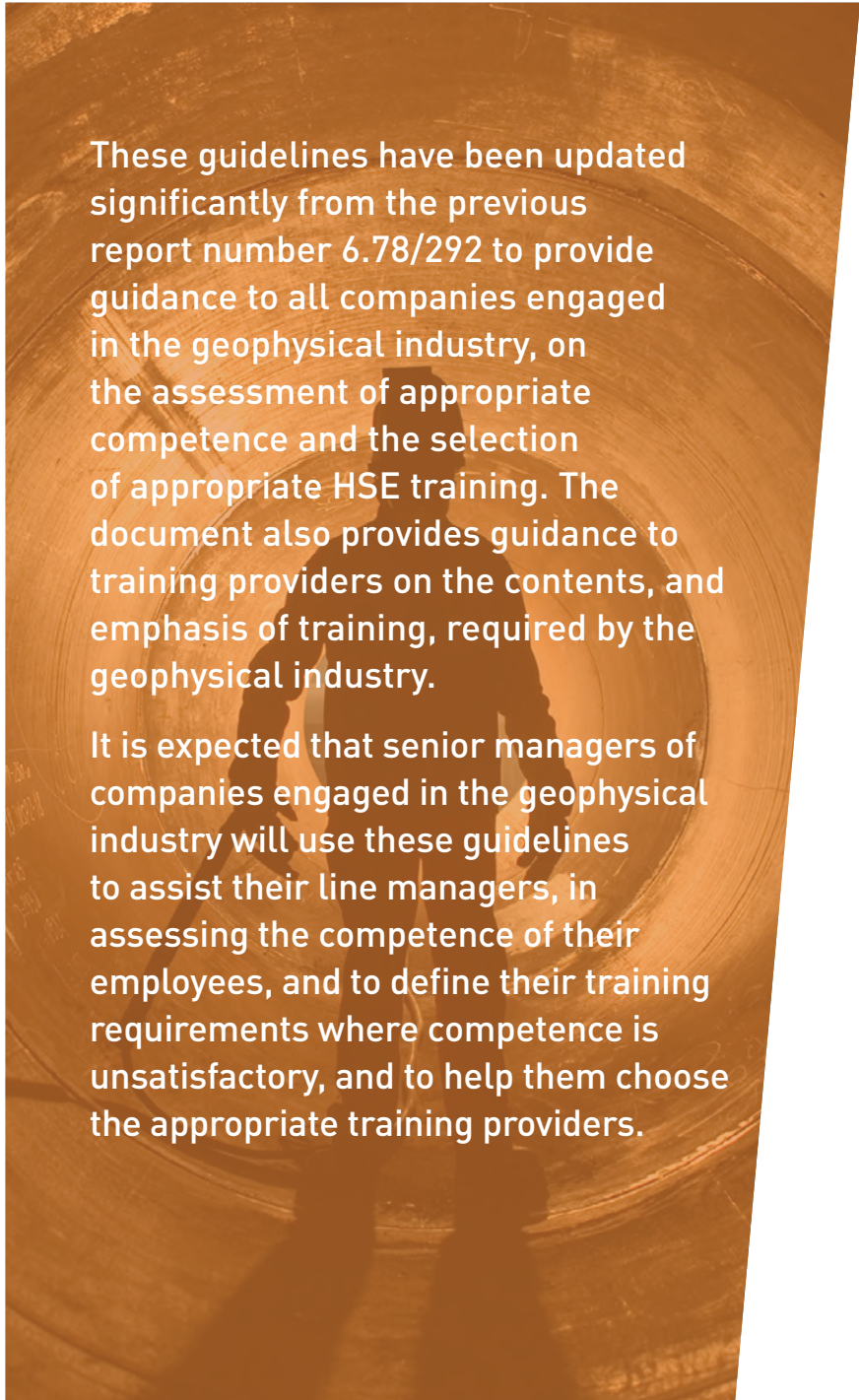
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These guidelines have been updated significantly from the previous report number 6.78/292 to provide guidance to all companies engaged in the geophysical industry, on the assessment of appropriate competence and the selection of appropriate HSE training. The document also provides guidance to training providers on the contents, and emphasis of training, required by the geophysical industry.

It is expected that senior managers of companies engaged in the geophysical industry will use these guidelines to assist their line managers, in assessing the competence of their employees, and to define their training requirements where competence is unsatisfactory, and to help them choose the appropriate training providers.